



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DMS-DR-2099
NASA CR-134,439

DATA REPORT FOR TESTS ON THE HEAT TRANSFER
EFFECTS OF THE 0.0175-SCALE
ROCKWELL INTERNATIONAL SPACE SHUTTLE VEHICLE MODEL
22-0T IN THE AEDC 50-INCH B WIND TUNNEL (OH4B)
VOLUME 3 OF 3

SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANAGEMENT services

SPACE DIVISION



CHRYSLER
CORPORATION

January, 1975

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By

T. F. Foster and W. J. Grifall,
Rockwell International Space Division
W. Martindale, AEDC

Prepared under NASA Contract Number NAS9-13247

By

Data Management Services
Chrysler Corporation Space Division
New Orleans, La. 70189

for

Engineering Analysis Division
Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: AEDC (VA 352)
NASA Series Number: OH4B
Test Dates: September 29 to October 4, 1973
Model Number: 22-0T

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ABSTRACT

Results of wind tunnel heat transfer tests of 0.0175-scale Rockwell International Space Shuttle Vehicle configurations for orbiter alone, tank alone, and orbiter plus external tank are presented in this report. Body flap shielding of SSME's during simulated entry was also investigated.

The tests were conducted at Mach 8 for thirteen Reynolds number per foot values ranging from 0.5×10^6 to 3.72×10^6 .

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COEFFICIENT SCHEDULE:

- A: HI/HO, HU/HO vs X/LT
- B: HI/HO, HU/HO vs X/L
- C: HI/HO, HU/HO vs X/C
- D: HU/HO vs X/C
- E: HI/HO vs X/L
- F: HU/HO vs X/L
- G: HU/HO vs X

NOTE: A large volume of working data plots were generated and released by the Data Management Services during initial data processing activities. However, for documentation purposes, only a small representative selection of plots are included. The data will remain on file and be available for any future applications.

INTRODUCTION

The experimental investigation described in this report was performed to obtain aerodynamic heating rate data in both ascent and entry flight regimes of the Space Shuttle Vehicle. Second stage ascent interference heating was investigated with the orbiter alone, tank alone and orbiter plus external tank configurations at angles of attack of -10° , -5° , 0° , and 5° and sideslip angles of 0° and -2° .

Orbiter entry heating data was obtained over an angle of attack range of 25° to 45° for sideslip angles of 0° and 5° . Effects of control surface deflections and body flap nozzle shielding were also investigated.

The test program was conducted in the Arnold Engineering Development Center VKF 50-inch B tunnel at Mach 8 for free-stream Reynolds number per foot values from 0.5×10^6 to 3.72×10^6 .

NOMENCLATURE

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>
b		model skin thickness, span, in
c		chord, in
c_p		specific heat of model material, BTU/lbm - °R
h		heat transfer coefficient, BTU/ft ² -sec-°R
h_{ref}	HREF	reference heat transfer coefficient, BTU/ft ² -sec-R
h_i/h_o	HI/HO	ratio of interference heat transfer coefficient to stagnation heat transfer coefficient
h_i/h_u	HI/HU	ratio of interference heat transfer coefficient to undisturbed heat transfer coefficient
h_u/h_o	HU/HO	ratio of undisturbed heat transfer coefficient to stagnation heat transfer coefficient
H		enthalpy, BTU/lbm
r	HAW/HT	adiabatic wall temperature ratio, T_{aw}/T_o (recovery factor). NOTE: Where HAW/HT = 0.0 in displayed data, the heat transfer coefficient has been calculated using a recovery factor calculated from $T_{aw}/T_o = (0.867 + 0.133 \sin^{1.55} \delta)$, where $\delta = (\alpha + \theta)$. Alpha is the model angle of attack and theta is local surface angle.
L		length, in
M	MACH	Mach number
Re	RN/L	unit Reynolds number, per foot
t		time, sec
T		temperature, °R
T_o		stagnation temperature, °R
T_i		initial temperature, °R

NOMENCLATURE - Continued

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>
T_{aw}		adiabatic wall temperature, °R
Q_i		initial heat transfer rate, BTU/sec
T/C		thermocouple
W		model material density, lbm/ft ³
x	X	axial distance from nose to corresponding component, in
x/c	X/C	chordwise location, fraction of local chord
x/L	X/L	longitudinal location, fraction of length
y	Y	spanwise distance from centerline, in
x/LT	X/LT	longitudinal location on tank, fraction of length
z	Z	waterplane distance, in
$2Y/B$	$2Y/B$	spanwise location of semispan
Z/BV	Z/BV	vertical tail location, fraction of height
δ_a		aileron deflection angle, degrees
δ_{BF}	$B.FLAP$	body flap deflection angle, degrees
δ_r		rudder deflection angle, degrees
β	$Beta$	sideslip angle, degrees
α	$ALPHA$	angle of attack, degrees
δ_e	$ELEVON$	elevon deflection angle, degrees
ϕ	PHI	radial loaction on tank, degrees
ϕ	$PHIN$	radial location on orbiter nozzle, degrees

NOMENCLATURE - Concluded

Subscripts

aw	adiabatic wall condition
i	initial condition
O	Orbiter
T	tank
V	vertical tail
w	wall conditions
o	stagnation conditions

REMARKS

During the course of mated configuration testing, it was felt that the forward canopy to wing bottom surface seam may have affected transition. This seam was repaired with dental plaster and 48 transition study runs were made at the end of the test with the orbiter alone configuration. These runs (177-224) consisted of eleven Re/ft values at two angles of attack, and demonstrated that the seam did not prematurely trip the boundary layer.

The original run schedule did not include obtaining data from the 11 T/C's on the windshield, but during the test high heating rates were observed in the canopy area. Therefore, three runs (#31, 32, and 33) were added to the run schedule to obtain this data. The first 11 T/C's of the data acquisition system switch position No. 1 were replaced with the windshield T/C's for these runs.

CONFIGURATIONS INVESTIGATED

The 22-OT model is a 0.0175-scale replica of the Vehicle 3 configuration Rockwell International Space Shuttle Orbiter and external tank per Drawing Number VL70-000139. The model was a thin skin thermocouple model instrumented with 428 iron-constantan thermocouples and was sting mounted through the orbiter base. The tank was sting mounted to the orbiter sting.

Provisions were made to test elevon deflections of 0° , $+5^\circ$, $+10^\circ$; body flap deflections of 0° , $+10^\circ$; and rudder flare angles of 0° and 40° . Entry orbiter nozzle heating data was obtained by replacing the orbiter main sting with an instrumented base plate and nozzle and an offset sting mounted through the vertical tail area. The offset sting simulated a rudder flare deflection angle of 40° .

The main model structure is 15-5 PH stainless steel with instrumented areas of 15-5 PH and 17-7 PH. Thermocouple locations and local skin thicknesses are presented in Table 4. The model instrumentation reference system is described in Figure 1. The configurations tested are described below with the component definitions given in Table 3.

$B_{17}, C_7, M_4, F_5, W_{103}, E_{22}, V_7, R_5$	Orbiter alone (O_1)
$B_{17}, C_7, M_4, F_5, W_{103}, E_{22}, V_7, R_5, T_{10}$	Orbiter plus tank ($O_1 + T_{10}$)
T_{10}	Tank alone (T_{10})
$B_{17}, C_7, M_4, F_5, W_{103}, E_{22}, V_7, R_5, N$	Descent orbiter alone nozzle heating (O_2)

TEST FACILITY DESCRIPTION

The Arnold Engineering Development Center (AEDC) is an Air Force Facility located in Tullahoma, Tennessee. The tunnel used, Tunnel B, is located in the Von Karman Facility portion of this center. Engineering and other technical operations in this tunnel are performed by contractor personnel of ARO, Inc.

Tunnel B is a continuous, closed circuit, variable density wind tunnel with an axisymmetric contoured nozzle and a 50-inch diameter test section. The tunnel can be operated at a nominal Mach number of 6 or 8 at stagnation pressures from 20 to 300 and 50 to 900 psia, respectively, and at a stagnation temperature of up to 1350°R. The model may be injected into the tunnel for a test run and then retracted for model cooling or model changes without interrupting the tunnel flow.

TEST PROCEDURES

The model was installed upright for second stage testing and offset-sting nozzle heating and transition studies. The orbiter was inverted for entry, orbiter alone testing. All configurations were leveled in both pitch and yaw planes. Yaw angles were obtained by combinations of roll and pitch with the tunnel model support system.

All instrumentation leads were routed internally through the model support apparatus to the data acquisition patching network outside the tunnel. Two hundred ninety one thermocouples were connected to the instrumentation patch board. Since the data acquisition system capability was ninety-seven recorded thermocouples per run, three runs were necessary for one test point. Each run of the test point series corresponded to one switch position (97 channels) of the data acquisition system.

The model was injected into the flow and remained on centerline for approximately one second. After retraction, the model was cooled to an isothermal state by air from high pressure manifolds.

For orbiter transition studies and nozzle heating tests, the orbiter base and main sting were removed and replaced with an instrumented base plate and nozzle. The model was then mounted with an offset sting through the vertical tail area. Only two main engines were simulated and only the left nozzle was instrumented. Shadowgraphs were taken for each run of the program.

DATA REDUCTION

Thermocouple outputs were recorded on magnetic tape at the rate of 20 times per second from the start of the injection cycle until about 4 seconds after the model reached the tunnel centerline. The heat transfer coefficient, h , was computed from the relation

$$h = Wbc_p \frac{d[\ln (\frac{T_o - T_{wi}}{T_o - T_w})]}{dt}$$

where

W = model skin density, lbm/ft³

b = model skin thickness, ft

c_p = model skin specific heat, BTU/lbm - °R

T_{wi} = initial model skin temperature, °R

This relation was derived from the equation

$$h = \frac{Wbc_p \frac{dT_w}{dt}}{T_o - T_w}$$

which neglects conduction losses and the assumptions that h , W , and c_p are constants.

If conduction losses are indeed very small, then

$$\ln \left[\frac{T_o - T_{wi}}{T_o - T_w} \right]$$

versus time is very nearly linear. Even when conduction effects are significant, a small linear portion of the curve can generally be found

at early time. It is for this reason that a linear least squares curve fit of $\ln((T_o - T_{wi})/(T_o - T_w))$, begun as soon as it could be determined that the model had reached uniform flow, was used to compute the derivative

$$\frac{d[\ln (\frac{T_o - T_{wi}}{T_o - T_w})]}{dt}$$

and then h.

The lengths of the curve fits were kept as short as possible and yet be consistent with system noise characteristics. These curve fit lengths are given below:

Range	No. of Points
$32 < \frac{dT_w}{dt}$	5
$16 < \frac{dT_w}{dt} \leq 32$	7
$8 < \frac{dT_w}{dt} \leq 16$	9
$4 < \frac{dT_w}{dt} \leq 8$	13
$2 < \frac{dT_w}{dt} \leq 4$	17
$1 < \frac{dT_w}{dt} \leq 2$	25
$\frac{dT_w}{dt} < 1$	41

REFERENCE

1. Foster, T.F.: Pretest Information for Testing of the 22-OT 0.0175-Scale Thin Skin Thermocouple model in the AEDC 50-inch B Wind Tunnel. Rockwell International Publication Number SD73-SH-0237, September 4, 1973.

TABLE I. - TEST CONDITIONS

TEST : OH4B		DATE : Sept. 1973	
TEST CONDITIONS			
MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
8	$0.5 \times 10^6/\text{ft}$	110	800
8	$0.68 \times 10^6/\text{ft}$	140	810
8	$1.0 \times 10^6/\text{ft}$	210	815
8	$1.25 \times 10^6/\text{ft}$	265	825
8	$1.50 \times 10^6/\text{ft}$	325	835
8	$1.75 \times 10^6/\text{ft}$	380	840
8	$2.00 \times 10^6/\text{ft}$	425	840
8	$2.25 \times 10^6/\text{ft}$	500	850
8	$2.50 \times 10^6/\text{ft}$	545	850
8	$2.75 \times 10^6/\text{ft}$	605	860
8	$3.00 \times 10^6/\text{ft}$	675	870
8	$3.35 \times 10^6/\text{ft}$	765	880
8	$3.72 \times 10^6/\text{ft}$	860	880

BALANCE UTILIZED: _____

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF	_____	_____	_____
SF	_____	_____	_____
AF	_____	_____	_____
PM	_____	_____	_____
RM	_____	_____	_____
YM	_____	_____	_____

COMMENTS:

TABLE II.

TEST: 0498		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: SEPT. 29, 1973															
DATA SET IDENTIFIER	CONFIGURATION	SCHED. PARAMETERS/VALUES					NO. OF RUNS	THERMOCouple Hookup Schedule										TEST RUN NUMBERS									
		α	β	RUL	DBF	De		M	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9
* (JTK)01	O ₁ T ₁₀	-10	0	372	0	0	8	3	10	11	12																
		-5	0					3	7	8	9																
		0	0					3	1	2	3																
		5	0					3	4	5	6																
(JTK)02		0	-2					3	13	14	15																
		0	0	372				3	1	2	3																
(JTK)03		-10	0	068				3	25	26	27																
		-5	0					3	21	23	24																
		0	0					3	16	17	18																
		5	0					3	19	20	21																
(JTK)04		0	-2					3	28	29	30																
		0	0	068				3	16	17	18																
(JTK)05		-10	0	372				1				33															
		-5	0					1				32															
	O ₁ T ₁₀	0	0	372	0	0	8	1				31															

* The first character of the dataset identifier refers to recovery factor used: r=1.0 (R), r=0.9 (A), r=0.85 (B), r=0.0 (C). The fourth character of the dataset identifier identifies component data under consideration: wing data, tank data, orbiter data etc.

0₁ + T₁₀ configuration, Dep. Var. is HI/HO

0₁, 0₂, T₁₀ configurations, Dep. Var. is HU/HO

IDVAR (1) IDVAR (2) NDV

* The first character of the dataset identifier refers to recovery factor used: r=1.0 (R), r=0.9 (A), r=0.85 (B), r=0.0 (C). The fourth character of the dataset identifier identifies component data under consideration: wing data, tank data, orbiter data etc.

O₁ + T₁₀ configuration, Dep. Var. is HI/HO

O₁, O₂, T₁₀ configurations, Dep. Var. is HU/HO

IDVAR (1) IDVAR (2) NDV

TABLE II. - Continued.

TEST: CH48		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: SEPT 29, 1973							
DATA SET IDENTIFIER	CONFIGURATION	SCHED. PARAMETERS/VALUES				NO. OF RUNS	THERMOCOUPLE LOOKUP SCHEDULE												
		A	B	QUL	QBF		Pe	M	1	2	3	4	5	6	7	8	9	10	
()TK()10	01	5	0	3.72	0	0	8	3						53	54	55			
()TK()11		0		3.72										50	51	52			
()TK()12		-5		0.68										59	60	61			
()TK()13		0		0.68										56	57	58			
()TK()14		25		0.5										68	69	70			
()TK()15		30												62	63	64			
()TK()16		35		0.5										65	66	67			
()TK()17		30		1.0										71	72	73			
()TK()18		35												74	75	76			
()TK()19		40		1.0										77	78	79			
()TK()20		30		2.0										80	81	82			
()TK()21		35		2.0										83	84	85			
()TK()22		25		3.72										86	87	88			
()TK()23		30												89	90	91			
()TK()24	01	35		3.72	0	0	8	3						92	93	94			
()TK()25																			
()TK()26																			
()TK()27																			
()TK()28																			
()TK()29																			
()TK()30																			
()TK()31																			
()TK()32																			
()TK()33																			
()TK()34																			
()TK()35																			
()TK()36																			
()TK()37																			
()TK()38																			
()TK()39																			
()TK()40																			
()TK()41																			

TEST: CH4B

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE: SEPT 29, 1973

DATA SET IDENTIFIER	CONFIGURATION	SCHED. PARAMETERS/VALUES		NO. OF RUNS	THERMOCouple 4000000 SCHEDULE									
		α	β		1	2	3	4	5	6	7	8	9	10
UTK(16)	C1	30	0	3.72	0	0	8						95	
UTK(17)		30	0	T	10	5	T			98	97	96		
UTK(18)		35	0	T						99	100	101		
UTK(19)		35	5	3.72						102	103			
UTK(20)		30	5	2.0						104	105			
UTK(21)		35	5	T						106	107			
UTK(22)		30	0	T						108	109			
UTK(23)		35	0	2.0						113	114	115		
UTK(24)		30	5	0.5						111	111	112		
UTK(25)		35	5	T						116	117			
UTK(26)		30	0							118	119			
UTK(27)		35	0							120	121	122		
UTK(28)		35	0							123	124	125		
UTK(29)		30	0							132	133	134		
UTK(30)	C1	35	0	0.5	10	10	8	3		129	130	131		
UTK(31)										126	127	128		

TEST RUN NUMBERS

TYPE OF DATA

 α OR β

SCHEDULES

IDVAR (1) IDVAR (2) IDV

TABLE II. - Continued.

TEST: CH4B		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: SEPT 29, 1973									
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	THERMOCOUPLE HOOKUP SCHEDULE												
		α	β	RULE	B	E	M		1	2	3	4	5	6	7	8	9	10			
UTK(24)	O ₁	25	-5	0.5	10	10	8	2							137	138					
		30	-5	↓	↓	↓	↓	2							139	140					
		35	-5	0.5				2							135	136					
UTK(25)		30	0	2.0				3							141	142	143				
		35	0	↓				3							144	145	146				
UTK(26)		30	-5	↓				2							147	148					
		35	-5	2.0				2							149	150					
UTK(27)		25	0	3.12				3							151	152	153				
		30	0	↓				3							154	155	156				
		35	0	↓				3							157	158	159				
UTK(28)		25	-5					2							166	167					
		30	-5			↓	↓	2							164	165					
	O ₁	35	-5		10	10		2							160	163					
UTK(29)	O ₂	25	0		0	0		1									168				
		30	0	↓	↓	↓	↓	1									169				
		35	0	3.12	0	0	8	1									170				
</																					

TEST: Q44B		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: SEPT 29, 1973									
DATA SET IDENTIFIER	CONFIGURATION	SCHED. PARAMETERS/VALUES				NO. OF RUNS	THERMOCouple HOURUP SCHEDULE														
		α	β	ML	MC		1	2	3	4	5	6	7	8	9	10					
UTK030	O ₂	25	0	2.0	0	0	8	1													
		30	T	T	T	T	T	1												171	
		35		2.0				1												172	
UTK031		25		0.5				1												173	
		30	T	T	T	T	T	1												174	
		35		0.5				1												175	
UTK032		30		1.0				2												176	
		35	T	T	T	T	T	2												177	
		45		1.0				2												178	
UTK033		30		1.25				2												179	
		35		1.25				2												180	
UTK034		30		1.5				2												181	
		35		1.5				2												182	
UTK035		30	T	1.75	T	T	T	2												183	
		35		1.75	T	T	T	2												184	
	O ₂	30	T	1.75	T	T	T	2												185	
		35	0	1.75	0	0	8	2												186	
																				187	
																				188	
																				189	
																				190	
																				191	
																				192	
																				193	
																				194	

TABLE II. - Concluded.

[illegible]

TABLE III. - MODEL DIMENSIONAL DATA

MODEL COMPONENT: BODY - B17

GENERAL DESCRIPTION: Fuselage, 3 configuration, lightweight orbiter per

Rockwell lines drawing No. VL70-000139

MODEL SCALE: 0.0175

DRAWING NO.: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>1290.3</u>	<u>22.58025</u>
Max. width - In.	<u>267.6</u>	<u>4.6830</u>
Max. depth - In.	<u>244.5</u>	<u>4.27875</u>
Fineness Ratio	<u>4.82175</u>	<u>4.82175</u>
Area - ft ²		
Max. Cross-sectional	<u>386.67</u>	<u>0.11842</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. - Continued.

MODEL COMPONENT: CANOPY - C7GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139Insufficient information to complete dimensional data at this time.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length ($X_0 = 433$ to $X_0 = 670$) - in FS	<u>237</u>	<u>4.148</u>
Max.Width	<u> </u>	<u> </u>
Max.Depth ($Z_0 =$ to $Z_0 = 501$) in FS	<u> </u>	<u> </u>
Fineness ratio	<u> </u>	<u> </u>
Area - ft^2	<u> </u>	<u> </u>
Max. Cross-sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. - Continued.

MODEL COMPONENT: OMS POD - M_4

GENERAL DESCRIPTION: Orbital maneuvering system pods located on the orbiter aft fuselage.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>346.0</u>	<u>6.0550</u>
Max. Width - In.	<u>108.0</u>	<u>1.890</u>
Max. Depth - In.	<u>113.0</u>	<u>113.0</u>
Fineness Ratio	<u>.</u>	<u></u>
Area - ft ²	<u></u>	<u></u>
Max cross sectional	<u></u>	<u></u>
Planform	<u></u>	<u></u>
Wetted	<u></u>	<u></u>
Base	<u></u>	<u></u>
Q of OMS Pod	<u></u>	<u></u>

WP = 463.9 In. FS; WP 400 + 63.9 = 463.9

BP = 80.0 In. FS

LENGTH: 1214.0 to 1560.0 = 346.0 In. FS

NOTE: M_4 is identical to M_3 of 2A configuration, except intersection to body.

TABLE III. - Continued.

MODEL COMPONENT: BODY FLAP - F₅GENERAL DESCRIPTION: 3 Configuration per Rockwell Lines VL70-000139

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>84.70'</u>	<u>1.48225</u>
Max. width - In.	<u>267.6</u>	<u>4.6830</u>
Max. Depth	<u> </u>	<u> </u>
Fineness Ratio	<u> </u>	<u> </u>
Area - ft ²	<u> </u>	<u> </u>
Max Cross-sectional	<u> </u>	<u> </u>
Planform	<u>142.5195</u>	<u>0.04365</u>
Wetted	<u> </u>	<u> </u>
Base	<u>38.0958</u>	<u>0.01167</u>

-TABLE III. - Continued.

MODEL COMPONENT: WING-W 103

GENERAL DESCRIPTION: Configuration 3 Orbiter per Lines VL70-000139.

NOTE: Same planform as W87, except dihedral at TE

Scale Model = 0.0175

TEST NO.

DWG. NO. VL70-000139

DIMENSIONS:

FULL-SCALE

MODEL SCALE

TOTAL DATA

Area (Theo.) Ft^2

Planform

2690.00

0.82381

Span (Theo) In.

936.68

16.39190

Aspect Ratio

2.265

2.27

Rate of Taper

1.177

1.177

Taper Ratio

0.200

0.200

Dihedral Angle, degrees (@ TE of Elevon)

3.500

3.500

Incidence Angle, degrees

3.000

3.000

Aerodynamic Twist, degrees

+3.000

+3.000

Sweep Back Angles, degrees

Leading Edge

45.000

45.000

Trailing Edge

-10.24

-10.24

0.25 Element Line

35.209

35.209

Chords:

Root (Theo) B.P.O.O.

689.24

12.06170

Tip, (Theo) B.P.

137.85

2.41238

MAC

474.81

8.30918

Fus. Sta. of .25 MAC

1136.89

19.89558

W.P. of .25 MAC

299.20

5.2360

B.L. of .25 MAC

182.13

3.18728

EXPOSED DATA

Area (Theo) Ft^2

1752.29

0.53664

Span, (Theo) In. BP108

720.68

12.61190

Aspect Ratio

2.058

2.058

Taper Ratio

0.2451

0.2451

Chords

Root BP108

562.40

9.8420

Tip $1.00 \frac{b}{2}$

137.85

2.41238

MAC

393.03

6.87802

Fus. Sta. of .25 MAC

1185.31

20.74292

W.P. of .25 MAC

300.20

5.25350

B.L. of .25 MAC

251.76

2.51580

Airfoil Section (Rockwell Mod NASA)

XXXX-64

Root $\frac{b}{2}$ =

0.10

0.10

Tip $\frac{b}{2}$ =

0.12

0.12

Data for (1) of (2) Sides

Leading Edge Cuff

Planform Area Ft^2

120.33

0.03685

Leading Edge Intersects Fus M. L. @ Sta

560.0

9.800

Leading Edge Intersects Wing @ Sta

1035.0

18.11250

TABLE III. - Continued.

MODEL COMPONENT: ELEVON- E₂₂

GENERAL DESCRIPTION: 3 configuration per W₁₀₃ Rockwell Lines Drawing

VL70-000139 data for (1) of (2) sides.

SCALE MODEL: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Area - ft ²	<u>205.52</u>	<u>0.06294</u>
Span (equivalent) - In.	<u>353.34</u>	<u>6.18345</u>
Inb'd equivalent chord	<u>114.78</u>	<u>2.00865</u>
Outb'd equivalent chord	<u>55.00</u>	<u>0.96250</u>
Ratio movable surface chord/ total surface chord		
At inb'd equiv. chord	<u>.208</u>	<u>.208</u>
At outb'd equiv. chord	<u>.400</u>	<u>.400</u>
Sweep-back angles, degrees		
Leading edge	<u>0.00</u>	<u>0.00</u>
Trailing edge	<u>- 10.24</u>	<u>- 10.24</u>
Hingeline	<u>0.00</u>	<u>0.00</u>
Area Moment (Normal to hingeline) - ft ³ (Product of Area Moment)	<u>1548.07</u>	<u>0.00829</u>

TABLE III. - Continued.

MODEL COMPONENT: VERTICAL, V₇ (Lightweight Orbiter Configuration)

GENERAL DESCRIPTION: Centerline vertical tail, double-wedge airfoil with rounded leading edge.

NOTE: Same as V₅ but with manipulator housing removed.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139, VL70-000095

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
TOTAL DATA		
Area (Theo) - ft ²		
Planform	<u>425.92</u>	<u>0.13044</u>
Span (Theo) - In.	<u>315.72</u>	<u>5.52510</u>
Aspect ratio	<u>1.675</u>	<u>1.675</u>
Rate of taper	<u>0.507</u>	<u>0.507</u>
Taper ratio	<u>0.404</u>	<u>0.404</u>
Sweep-back angles, degrees		
Leading edge	<u>45.000</u>	<u>45.000</u>
Trailing edge	<u>26.249</u>	<u>26.249</u>
0.25 Element line	<u>41.130</u>	<u>41.130</u>
Chords:		
Root (Theo) WP	<u>268.50</u>	<u>4.69875</u>
Tip (Theo) WP	<u>108.47</u>	<u>1.89822</u>
MAC	<u>199.81</u>	<u>3.49667</u>
Fus. Sta. of .25 MAC	<u>1463.50</u>	<u>25.61125</u>
W.P. of .25 MAC	<u>635.522</u>	<u>11.12164</u>
B.L. of .25 MAC	<u>0.00</u>	<u>0.00</u>
Airfoil section:		
Leading wedge angle - deg.	<u>10.000</u>	<u>10.000</u>
Trailing wedge angle - deg.	<u>14.920</u>	<u>14.920</u>
Leading edge radius	<u>2.0</u>	<u>0.0350</u>
Void area - ft ²	<u>13.17</u>	<u>0.00403</u>
Blanketed area	<u>0.00</u>	<u>0.00</u>

TABLE III. - Continued.

COMPONENT DIMENSIONAL DATA

MODEL COMPONENT: RUDDER - R₅GENERAL DESCRIPTION: 2A, 3 and 3A configuration per Rockwell Lines Drawing
VL70-000095

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139, VL70-000095

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Area - ft ²	<u>106.38</u>	<u>0.03258</u>
Span (equivalent) - in.	<u>201.0</u>	<u>3.5175</u>
Inb'd equivalent chord	<u>91.585</u>	<u>1.60274</u>
Outb'd equivalent chord	<u>50.833</u>	<u>0.88958</u>
Ratio movable surface chord/ total surface chord		
At inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep-back angles, degrees		
Leading edge	<u>34.83</u>	<u>34.83</u>
Trailing edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
Area Moment (normal to hingeline) - ft ³	<u>526.13</u>	<u>0.00282</u>
Product of area and mean chord		

TABLE III. - Continued.

MODEL COMPONENT: EXTERNAL TANK - T₁₀GENERAL DESCRIPTION: External Oxygen-hydrogen tank, 3 configuration, per
Rockwell Lines drawing VL78-000041 and VL72-000088

MODEL SCALE: 0.0175

DRAWING NUMBER: VL72-000088, VL78-000041

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In. (Nose @ $X_T = 309$)	<u>1865</u>	<u>32.63750</u>
Max. width (Dia) - In.	<u>324</u>	<u>5.670</u>
Max. depth	<u>--</u>	<u>--</u>
Fineness Ratio	<u>5.75617</u>	<u>5.75617</u>
Area - ft ²		
Max. Cross-Sectional	<u>572.555</u>	<u>0.17534</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
WP of Tank Centerline (X_T) In.	<u>400.0</u>	<u>7.00</u>

TABLE III. - Concluded.

MODEL COMPONENT: MP3 NOZZLES - NGENERAL DESCRIPTION: Only the exterior surface of the nozzle was
simulated.MODEL SCALE: 0.0175DRAWING NUMBER: UL70-000139

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
MACH NO.		
Length - In.		
Gimbal Point to Exit Plane		
Throat to Exit Plane		
Diameter - In.		
Exit		
Throat		
Inlet		
Area - ft ²		
Exit		
Throat		
Gimbal Point (Station) - In.		
Upper Nozzle		
X		
Y		
Z		
Lower Nozzles		
X		
Y		
Z		
Null Position - Deg.		
Upper Nozzle		
Pitch		
Yaw		
Lower Nozzle		
Pitch		
Yaw		

Table IV. -Orbiter T/C Locations.
Model 22-OT

T/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE			ϕ	SKIN THICK- NESS	REMARKS
		x_o	y	z	x FROM NOSE	y	z			
1	0	238.00	0	--	0	0	--	0	.034	BOTTOM ϕ
2	.005	244.45	▲	▲	.113	▲	▲	▲	.035	▲
3	.010	250.90			.226				.035	
4	.020	263.81			.452				.032	
5	.030	276.71			.677				.033	
6	.040	289.61			.903				.034	
7	.050	302.52			1.129				.033	
8	.060	315.42			1.355				.032	
9	.070	328.32			1.581				.034	
10	.080	341.22			1.806				.035	
11	.090	354.13			2.032				.035	▼
12	.100	367.03			2.258				.034	BOTTOM ϕ
13									—	OPEN
14	.120	392.84			2.710				.035	BOTTOM ϕ
15	.130	405.74			2.935				.035	▲
16	.140	418.64			3.161				.035	
17	.150	431.54			3.387				.034	
18	.160	444.45			3.613				.035	
19	.170	457.35			3.839				.035	
20	.180	470.25			4.064				.035	
21	.190	483.16			4.290				.035	
22	.200	496.06			4.516				.031	
23	.225	528.32			5.081				.031	
24	.250	560.58			5.645				.033	
25	.275	592.83			6.210				.033	
26	.300	625.09			6.774				.032	
27	.325	657.35			7.339				.033	
28	.350	689.60			7.903				.020	
29	.375	721.86			8.468				.028	
30	.400	754.12			9.032				.033	
31	.425	786.38	▼	▼	9.597	▼	▼	▼	.035	▼
32	.450	818.64	0	--	10.161	0	--	0	.034	BOTTOM ϕ

Table IV. (Cont'd) Orbiter

T/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE			ϕ	SKIN THICK- NESS	REMARKS
		x_0	y	z	(x FROM NOSE)	y	z			
33	.475	850.89	0	--	10.726	0	--	0	.030	BOTTOM ϕ
34	.500	883.15	↑	↑	11.290	↑	↑	↑	.030	↑
35	.525	915.41			11.855				.032	
36	.550	947.66			12.419				.031	
37	.575	979.92			12.984				.029	
38	.600	1012.18			13.548				.028	
39	.625	1044.44			14.113				.028	
40	.650	1076.70			14.677				.033	
41	.675	1108.95			15.242				.035	
42	.700	1141.21			15.806				.034	
43	.725	1173.47			16.371				.035	
44	.750	1205.72			16.935				.035	
45	.775	1237.98			17.500				.034	
46	.800	1270.24			18.064				.035	
47	.825	1302.50			18.624				.035	
48	.850	1334.76			19.193				.033	
49	.875	1367.01			19.758				.033	
50	.900	1399.27			20.322				.034	
51	.925	1431.53			20.887				.035	
52	.950	1463.78			21.451				.032	↓
53	.975	1496.04			22.016				.032	BOTTOM ϕ
54	1.000	1528.31			22.580				.029	$\frac{x}{L}=1.008 @ \delta_{BF}=10^\circ$.02
55	1.013	1541.56			22.812				.032	$\delta_{BF} 10^\circ$ ONLY ↑
56	1.025	1560.56			23.145				.032	BF ↑
57	1.038	1574.30			23.385			↓	.032	$\delta_{BF} 10^\circ$ ONLY ↓
58	1.050	1592.82			23.709			0	.030	↓ .03
59	.010	250.90			.226			180	.035	TOP ϕ
60	.025	270.26			.565			↑	.035	↑
61	.050	302.52			1.129			↑	.035	↑
62	.075	334.77			1.694			↑	.033	↑
63	.100	367.03	↓	↓	2.258	↓	↓	↓	.033	↓
64	.125	399.29	0	--	2.823	0	--	180	.031	TOP ϕ

Table IV. (Cont'd) Orbiter

T/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE			ϕ	SKIN THICKNESS	REMARKS
		x_0	y	z	x FROM NOSE	y	z			
65	.150	431.54	0	--	3.387	0	--	180	.026	TOP ϕ
66	.160	444.45	↑	↑	3.613	↑	↑	↑	.031	↑
67	.170	457.35			3.839				.031	
68	.180	470.25			4.064				.030	
69	.200	496.06			4.516				.033	
70	.250	560.58			5.645				.030	
71	.300	625.09			6.774				.030	
72	.400	754.12			9.032				.030	
73	.500	883.15			11.290				.030	
74	.600	1012.18			13.548				.031	
75	.700	1141.21	↓	↓	15.806	↓	↓	↓	.032	↓
76	.800	1270.24	0	--	18.064	0	--	180	.030	TOP ϕ
77			29.60	478.00	WINDOW #1	0.518	8.365	--	.035	TOP LEFT
78			12.80	478.00	WINDOW #1	0.224	8.365	--	.035	TOP RIGHT
79			21.20	464.97	↑	0.371	8.137	↑	.033	CENTER
80			34.40	452.00	↓	0.602	7.910		.035	BOTTOM LEFT
81			6.00	452.00	WINDOW #1	0.105	7.910		.034	BOTTOM RIGHT
82			43.20	478.00	WINDOW #2	0.756	8.365		.035	TOP LEFT
83			34.80	478.00	WINDOW #2	0.609	8.365		.035	TOP RIGHT
84			44.80	464.97	↑	0.784	8.137	↑	.035	CENTER
85			59.20	452.00	↓	1.036	7.910	↓	.035	BOTTOM LEFT
86			40.40	452.00	WINDOW #2	0.707	7.910	--	.035	BOTTOM RIGHT
87			62.40	464.97	WINDOW #3	1.092	8.137	140	.032	CENTER
88	.100	367.03	20.00	--	2.258	0.350	--	10	.035	FUSELAGE BOTTOM SURFACE
89	.150	431.54	24.00	--	3.387	0.420	--	10	.035	
90	.050	302.52	25.00	↑	1.129	0.438	--	14	.033	↑
91	.200	496.06	25.00		4.516	0.438	↑	11.5	.031	
92	.300	625.09	25.00		6.774	0.438		12	.033	
93	.200	496.06	50.00		4.516	0.875		24	.034	
94	.300	625.09	50.00		6.774	0.875		23	.036	
95	.400	754.12	50.00	↓	9.032	0.875	↓	21.5	.026	↓
96	.500	883.15	50.00	--	11.290	0.875	--	21.5	.026	FUSELAGE BOTTOM SURFACE

Table IV. (Cont'd) Orbiter

T/C NO.	x L	FULL SCALE			MODEL SCALE			φ	SKIN THICK- NESS	REMARKS
		x ₀	y	z	FROM NOSE x	y	z			
97	.600	1012.18	50.00		13.548	0.875		21.5	.021	FUSELAGE SIDE
98	.700	1141.21	50.00		15.806	0.875		↑	.033	
99	.800	1270.24	50.00		18.064	0.875		↓	.033	
100	.900	1399.27	50.00		20.322	0.875		21.5	.034	FUSELAGE SIDE
101	1.000	1528.30	100.00		22.580	1.75		39	.031	BODY FLAP 10° = .034
102	1.050	1592.82	100.00		23.704	1.75		39	.028	BODY FLAP 10° = .033
103	.100	367.03	39.20		2.258	0.686		20	.033	FUSELAGE SIDE
104	.150	431.54	40.80		3.387	0.714		20	.031	
105	.050	302.52		303.60	1.129	--	5.313	22	.031	C.C.L. TANGENT
106	.100	367.03	52.00	--	2.258	0.910		24.5	.033	↑
107	.150	431.54	62.00	--	3.387	1.085	--	25.5	.031	↓
108	.200	496.06	65.60	287.20	4.516	1.148	5.026	31.5	.035	C.C.L. TANGENT
109	.300	625.09	74.46	--	6.774	1.303		34	.033	
110	.200	496.06	75.60	292.00	4.516	1.323	5.110	35	.030	
111	.150	431.54	79.20	304.80	3.387	1.386	5.334	40	.030	
112	.200	496.06	85.20	298.80	4.516	1.491	5.229	40	.034	
113	.300	625.09	91.43		6.774	1.600		40	.026	
114	.300	625.09	102.86		6.774	1.800		45	.023	
115	.050	302.52		325.60	1.129		5.698	35	.030	M.H.B. TANGENT
116	.100	367.03		317.60	2.258		5.558	39	.030	M.H.B. TANGENT
117	.150	431.54	83.60	314.4	3.387	1.463	5.502	45.5	.030	M.H.B. TANGENT
118	.200	496.06		320.00	4.516		5.600	51	.030	
119	.300	625.09		330.00	6.774		5.775	57.5	.021	
120	.300	625.09		340.00	6.774		5.950	61	.027	
121	.076	336.51		350.00	1.724		6.125	--	.030	RCS CENTER
122	.300	625.09		350.00	6.774		6.125	65	.026	
123	.800	1270.24		350.00	18.064		6.125	65	.017	
124	.900	1399.27		350.00	20.322		6.125	65	.033	
125	.975	1496.04		350.00	22.016		6.125	68	.034	
126	.975	1496.04		300.00	22.016		5.250	52.5	.032	
127	.050	302.52		342.40	1.129		5.992	25	.030	TANGENT (UPPER)

Table IV. (Cont'd) Orbiter

T/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE			ϕ	SKIN THICKNESS	REMARKS
		x_o	y	z	x FROM NOSE	y	z			
128	.200	496.06	--	360.00	4.516	--	6.300	67.5	.026	FUSELAGE SIDE
129	.300	625.09	--	360.00	6.774		6.300	70	.023	
130	.600	1012.18		375.14	13.548		6.565	77	.031	
131	.050	302.52		376.40	1.129		6.622	60	.035	45° TANGENT
132	.100	367.03		410.00	2.258		7.175	119	.034	
133	.200	496.06		410.00	4.516		7.175	96.5	.028	
134	.300	625.09		430.00	6.774		7.525	106	.032	FUSELAGE SIDE
135	.400	754.12		430.00	9.032			105	.033	UPPER BODY
136	.500	883.15		430.00	11.290				.032	
137	.600	1012.18		430.00	13.548				.032	
138	.700	1141.21		430.00	15.806				.032	
139	.800	1270.24		430.00	18.064		7.525		.032	
140	.900	1399.27		370.00	20.322		6.475		.033	
141	.300	625.09		478.80	6.774		8.379	135	.031	
142	.400	754.12			9.032			135	.030	
143	.500	883.15			11.290			135	.033	
144	.600	1012.18			13.548			135	.033	
145	.700	1141.21			15.806			135	.032	
146	.600	1012.18		445.0	13.548		7.788	113	.032	
147	.600	1012.18		440.0	13.548		7.70	112	.032	
148	.750	1205.73		450.00	15.806		7.875	116	.032	
149	.750	1502.73		490.00	15.806		8.575	149	.034	UPPER BODY
150	.400	754.12			9.032			59.5	.031	WING UPPER CREASE
151	.500	883.15			11.290			63	.012	
152	.600	1012.18			13.548			65.5	.030	
153	.700	1141.21			15.806			64	.030	
154	.900	1399.27		222.0	20.322				.034	WING UPPER CREASE

Table IV. (Continued) Orbiter

T/C NO.	$\frac{2y}{b}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICKNESS	REMARKS
			x_0	y	x_0	y		
155	.250	.025	640.650	117.085	7.043	2.049	.031	WING BOTTOM
156	▲	.153	754.120	▲	9.030	▲	.035	SURFACE
157	▲	.299	883.150	▲	11.288	▲	.028	▲
158	▲	.444	1012.180	▲	13.545	▲	.023	
159	▲	.590	1141.200	▲	15.802	▲	.034	
160	▼	.736	1270.230	▼	18.060	▼	.034	
161	.250	.900	1415.900	117.085	20.613	2.049	.034	
162	.301		754.000		9.030		.023	30° ROLL DOWN
163	.348		883.000		11.288		.028	30° ROLL DOWN
164	.400	.025	1002.063	187.336	13.364	3.278	.035	
165	▲	.100	1039.750	▲	14.031	▲	.034	
166	▲	.200	1090.000	▲	14.900	▲	.034	
167	▲	.302	1141.210	▲	15.802	▲	.035	
168	▲	.559	1270.230	▲	18.060	▲	.032	
169	▼	.700	1341.250	▼	19.307	▼	.032	
170	.400	.900	1441.750	187.336	21.065	3.278	.032	ELEVON
171	.500		1067.470	234.170	14.516	4.098	.033	30° ROLL DOWN
172	▲	.025	1077.913	▲	14.696	▲	.035	
173	▲	.177	1141.210	▲	15.802	▲	.030	
174	▲	.300	1192.450	▲	16.706	▲	.031	
175	▲	.487	1270.230	▲	18.060	▲	.034	
176	▲	.600	1317.428	▲	18.895	▲	.034	
177	▲	.700	1359.028	▲	19.618	▲	.033	
178	▼	.900	1442.350	234.170	21.075	4.098	.033	ELEVON
179	.600	.100	1152.000	281.004	15.995	4.918	.033	
180	▲	.200	1188.00	▲	16.625	▲	.031	
181	▲	.300	1224.000	▲	17.255	▲	.026	
182	▲	.428	1270.230	▲	18.064	▲	.026	
183	▼	.600	1332.000	▼	19.145	▼	.027	WING BOTTOM
184	.600	.700	1368.000	281.004	19.775	4.918	.024	SURFACE

Table IV. (Continued) Orbiter

T/C NO.	$\frac{2y}{b}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICKNESS	REMARKS
			x_0	y	x (FROM NOSE)	y		
185	.600	.800	1404.000	281.004	20.404	4.918	.035	WING TOP SURFACE
186	.600	.850	1422.000	↑	20.720		.033	ELEVON ↑
187	.600	.90	1440.000	281.004	21.034		.034	
188	.750		1185.5	351.255	16.599	6.147	.035	L.E. ROLLED
189	↑	.025	1193.428	↑	16.720	↑	.035	DOWN 30°
190	↑	.100	1214.228	↑	17.084	↑	.032	
191	↑	.303	1270.230	↑	18.064	↑	.032	
192	↑	.500	1325.028	↑	19.023	↑	.032	
193	↑	.700	1380.400	↑	19.992	↑	.027	
194	↑	.800	1408.100	↑	20.476	↑	.031	
195	↓	.850	1422.000	↓	20.719	↓	.035	
196	.750	.900	1435.800	351.255	20.962	6.147	.035	
197	.850	.100	1255.200	398.089	17.201	6.967	.031	
198	.850	.300	1299.600	398.089	18.578	6.967	.034	
199	.850	.500	1344.000	398.089	19.355	6.967	.032	
200	.900	.60	1373.028	421.506	19.863	7.376	.024	
201	.900	.30	1314.743	421.506	18.846	7.376	.030	
202	.950			444.857		7.785	.035	L.E. ROLLED 30°
203	↑	.050	1295.925	↑	18.514	↑	.035	
204	↑	.100	1303.828	↑	18.652	↑	.035	
205	↑	.300	1335.543	↑	19.207	↑	.024	
206	↑	.500	1367.257	↑	19.762	↑	.022	
207	↓	.700	1398.950	↓	20.316	↓	.035	
208	.950	.900	1430.650	↓	20.870	7.785	.030	
209	.966	0.00	1307.000	452.416	18.708	7.917	.032	L.E.
210	.993	0.00	1398.950	464.914	20.316	8.136	.031	L.E.
211	.600			281.004		4.918	.035	CLUSTER B
212	↑			↑		↑	.035	↑
213	↓			↓		↓	.035	↓
214	.600			281.004		4.918	.035	WING BOTTOM SURFACE

Table IV. (Continued) Orbiter

T/C NO.	$\frac{2y}{b}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICKNESS	REMARKS
			x_0	y	x (FROM NOSE)	y		
215	.600			281.004		4.918	.035	CLUSTER B
216	.600			281.004		4.918	.035	SEE FIG. 6
217	.600			281.004		4.918	.035	
218	.850			398.089		6.967	.020	CLUSTER C
219	↑			↑		↑	.020	SEE FIG. 6
220	↑			↑		↑	.020	
221	↑			↑		↑	.020	
222	↓			↓		↓	.020	
223	↓			↓		↓	.020	
224	.850			398.089		6.967	.020	
225	.400	.050	1015.114	187.336	13.599	3.278	.025	WING TOP SURFACE
226	↑	.200	1090.428	↑	14.918	↑	.024	
227	↓	.600	1291.171	↓		↓	.033	
228	.400	.950	1466.875	187.336		3.278	.031	ELEVON
229	.600	.050	1134.886	281.004	15.696	4.918	.032	
230	.600	.200	1188.657	↑	16.637	↑	.031	
231	.600	.600	1332.028		19.146		.0	
232	↑	.800	1404.000	↓	20.404		.032	ELEVON
233	↓	.900	1440.000	↓	21.034	↓	.034	
234	.600	.950	1458.000	281.004	21.349	4.918	.033	
235	.800	.050	1223.057	374.672	17.239	6.557	.033	
236	↑	.200	1260.257	↑	17.889	↑	.033	
237	↑	.600	1359.514		19.627		.032	
238	↓	.800	1408.780		20.488		.030	ELEVON
239	↓	.900	1433.690	↓	20.924	↓	.030	ELEVON
240	.800	.950	1446.145	374.672	21.192	6.557	.030	ELEVON

Table IV. (Continued)

Orbiter

T/C NO.	x [FULL SCALE			MODEL SCALE			ϕ	SKIN THICKNESS	REMARKS
		x_0	y	z	x (FROM NOSE)	y	z			
241	.829	1307			18.715				.026	BOTTOM CREASE OF OMS
242	.900	1399.27			20.318				.035	BOTTOM CREASE OF OMS
243	.975	1496.04			22.011				.030	BOTTOM CREASE OF OMS
244	1.000	1528.3			22.575				.034	BOTTOM OF RCS
245	1.014	1547.0			22.902				.035	BOTTOM OF RCS
246	.780	1245	95.0	474.0	17.608	1.662	8.295	127.9	.032	OMS PODS
247	.805	1276	112.9	474.0	18.173	1.976	8.295	123.8	.031	
248	.829	1307	124.5	474.0	18.715	2.179	8.295	120.8	.031	
249	.862	1350	132.6		19.460	2.320	8.295	119.1	.035	
250	.963	1480	142.5		21.740	2.494	8.295	117.5	.028	
251	1.000	1528.3	142.5		22.575	2.494	8.295	117.5	.033	
252	1.014	1547.0		474.0	22.902		8.295		.033	
253	.805	1276	105.5	488	18.173	1.846	8.540	129.5	.032	
254	.829	1307	117.0	498.7	18.715	2.048	8.727	130.0	.033	
255	.862	1350	126.5	506	19.460	2.214	8.855	130.0	.031	
256	.963	1480	134.5	513	21.740	2.354	8.978	130.0	.028	
257	1.000	1528.3		500	22.575		8.750		.031	
258	1.014	1547.0		500	22.902		8.750		.032	
259	.805	1276	95.0	494.3	18.173	1.662	8.650	135.0	.033	
260	.829	1307	95.0	511.0	18.715	1.662	8.942	139.0	.034	
261	.862	1350	95.0	521.0	19.460	1.662	9.118	142.1	.031	
262	.963	1480	95.0	530.0	21.740	1.662	9.275	144.0	.027	
263	.862	1350	65	517.5	19.460	1.138	9.056	151.2	.031	
264	.963	1480	65	527.0	21.740	1.138	9.222	153	.026	OMS PODS

Table IV. (Continued) Orbiter

T/C NO.	$\frac{z}{b_v}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICKNESS	REMARKS
			x_0	z	x (FROM NOSE)	z		
265	.159	.100	1353.00	550.20	19.513	9.628	.030	VERTICAL TAIL
266	▲	.300	1421.51	550.20	20.361	9.628	.030	▲
267	▼	.700	1498.66	550.20	22.062	9.628	.028	
268	.299	0.00		594.40		10.402	.033	L.E.
269	▲	.100	1394.94	▲	20.246	▲	.031	
270		.300	1439.00	▲	21.018	▲	.031	
271		.500	1483.06	▲	21.789	▲	.031	
272	▼	.700	1527.11	▼	22.559	▼	.022	
273	.299	.900	1571.17	594.40	23.330	10.402	.022	
274	.532	0.00		667.96		11.689	.034	L.E.
275	▲	.100	1538.31	▲	22.755	▲	.031	
276		.300	1574.94	▲	23.396	▲	.032	
277		.500	1611.57	▲	25.034	▲	.032	
278	▼	.700	1648.14	▼	24.677	▼	.023	
279	.532	.900	1684.77	667.96	25.318	11.689	.026	
280	.765	0.00		741.53		12.977	.034	L.E.
281	.765	.100	1461.00	▲	21.403	▲	.031	
282	▲	.300	1490.14	▲	21.912	▲	.031	
283		.500	1519.29	▲	22.423	▲	.030	
284	▼	.700	1548.43	▼	22.933	▼	.024	
285	.765	.900	1577.57	741.53	23.442	12.977	.024	
286	.905	0.00		785.73		13.750	.033	L.E.
287	.905	.100	1576.49	785.73	23.424	13.750	.030	▼
288	.905	.500	1625.86	785.73	24.288	13.750	.030	VERTICAL TAIL

Table IV. Orbiter Left Main Nozzle T/C Locations
Model 22-OTS

T/C NO.	X FROM EXIT PLANE		ϕ CLOCKWISE LOOKING FORWARD	
	F.S.	M.S.	SKIN THICKNESS	0° BOTTOM ϕ
301	5"	0.088	.031	0°
302	↓	↓	.031	25°
303	↓	↓	.031	45°
304	↓	↓	.031	65°
305	↓	↓	.031	90°
306	↓	↓	.031	135°
307	↓	↓	.031	315°
308	10"	0.175	.031	0°
309	↓	↓	.031	25°
310	↓	↓	.031	45°
311	↓	↓	.031	65°
312	↓	↓	.031	90°
313	15"	0.263	.031	0°
314	↓	↓	.031	45°
315	↓	↓	.031	90°
316	25"	0.438	.031	0°
317	↓	↓	.031	45°
318	↓	↓	.031	65°
319	↓	↓	.031	90°
320	45"	0.788	.031	45°
321			.032	BASE PLATE
322			.034	↓
323			.031	
324			.032	↓

Table IV. External Tank Locations

T/C NO.	x_T FS	x_{ms}^*	$\frac{x}{L}$	θ	SKIN THICKNESS	REMARKS
501	383.60	1.306	.040	0°	.034	NOSE
502	458.20	2.6110	.080	↑	.034	NOSE
503	588.75	4.896	.150	↑	.035	NOSE
504	1055.00	13.055	.400	↓	.035	
505	1428.00	19.582	.600	↓	.034	
506	1801.00	26.110	.800	0°	.035	
507	1055.00	13.055	.400	45°	.035	
508	1241.50	16.319	.500	↑	.035	
509	1428.00	19.582	.600	↓	.034	
510	1614.50	22.846	.700	↓	.034	
511	1801.00	26.110	.800	↓	.035	
512	1987.5	29.374	.900	45°	↑	
513	868.5	9.791	.300	67.5°	↑	
514	961.75	11.423	.350	↑	↓	
515	1055.00	13.055	.400	↑	.035	
516	1241.50	16.319	.500	↑	.034	
517	1428.00	19.582	.600	↑	↑	
518	1521.25	21.214	.650	↓	↓	
519	1614.50	22.846	.700	↓	.034	
520	1707.75	24.478	.750	↓	.035	
521	1801.00	26.110	.800	↓	↑	
522	1987.5	29.374	.900	67.5°	↑	
523	682.00	6.528	.200	90°	↑	
524	775.25	8.159	.250	↑	↑	
525	821.88	8.975	.275	↑	↑	
526	868.50	9.791	.300	↑	↑	
527	915.12	10.607	.325	↑	↓	
528	961.75	11.423	.350	↑	.035	
529	1055.00	13.055	.400	↑	.034	
530	1148.25	14.687	.450	↑	.035	
531	1241.5	16.319	.500	↑	.034	
532	1334.75	17.951	.550	↓	.035	
533	1428.00	19.582	.600	90°	.034	

*MEASURED FROM NOSE

Table IV. (Continued)
(External Tank)

T/C NO.	x_T FS	x_{ms}^*	$\frac{x}{L}$	θ	SKIN THICKNESS	REMARKS
534	1521.25	21.214	.650	90°	.034	
535	1614.50	22.846	.700	↑	.034	
536	1707.75	24.478	.750	↓	.035	
537	1801.00	26.110	.800	↓	.035	
538	1894.25	27.742	.850	↓	.034	
539	1987.50	29.374	.900	90°		
540	2080.75	30.999	.950	112.5°	.035	
541	2174.00	32.624	1.000	↑	↑	
542	915.12	10.607	.325	↑	↑	
543	961.75	11.423	.350	↑	↑	
544	1055.00	13.055	.400	↑	↓	
545	1148.25	14.687	.450	↑	.035	
546	1241.50	16.319	.500	↑	.034	
547	1334.75	17.951	.550	↑	.035	
548	1428.00	19.582	.600	↑	.034	
549	1521.25	21.214	.650	↑	.034	
550	1614.50	22.846	.700	↑	.034	
551	1707.75	24.478	.750	↑	.035	
552	1801.00	26.110	.800	↑	↑	
553	1894.25	27.742	.850	↓	↓	
554	1987.50	29.374	.900	112.5°	.035	
555	1847.62	26.926	.825	123°	.034	
556	1894.25	27.742	.850	↑	.035	
557	1940.88	28.558	.875	↑	.034	
558	1987.50	29.374	.900	↓	.035	
559	2034.12	30.190	.925	↓	.035	
560	2099.40	31.332	.960	123°	.034	
561	915.12	10.607	.325	135°	.035	
562	961.75	11.423	.350	↑	↑	
563	1008.38	12.239	.375	↑	↑	
564	1055.00	13.055	.400	↑	↓	
565	1148.25	14.687	.450	↑	.035	
566	1241.50	16.319	.500	↑	.034	
567	1334.75	17.951	.550	↑	.035	
568	1428.00	19.582	.600	↓	.034	
569	1521.25	21.214	.650	135°	.034	

*MEASURED FROM NOSE

Table IV. (Continued)
(External Tank)

T/C NO.	x_T FS	x_{ms}^*	$\frac{x}{L}$	θ	SKIN THICKNESS	REMARKS
570	1614.50	22.846	.700	135°	.035	
571	1707.75	24.478	.750	↑	.034	
572	1801.00	26.110	.800	↓	.035	
573	1894.25	27.742	.850	↓	.034	
574	1987.50	29.374	.900	↓	.035	
575	2052.78	30.576	.935	135°		
576	1055.00	13.055	.400	151	.035	
577	1101.62	13.871	.425	157	↑	
578	1148.25	14.687	.450	↑	↓	
579	1194.88	15.503	.475	↑	.035	
580	1241.50	16.319	.500	↑	.034	
581	1334.75	17.951	.550	↑	.035	
582	1428.00	19.582	.600	↑	.034	
583	1521.25	21.214	.650	↑	.034	
584	1614.50	22.846	.700	↑	.035	
585	1707.75	24.478	.750	↑	.035	
586	1801.00	26.110	.800	↓	.035	
587	1894.25	27.742	.850	↓	.034	
588	1987.50	29.374	.900	157	.034	
589	1101.62	13.871	.425	161	.035	
590	1241.50	16.319	.500	165°	.034	
591	1614.50	22.846	.700	165°	.035	
592	1987.50	29.374	.900	165°	.034	
593	1055.00	13.055	.400	165°	.035	
594	309.00	0.000	0.000	180	.033	NOSE
595	318.32	0.163	.005	↑	.033	↓
596	327.65	0.326	.010	↓	.034	
597	383.60	1.306	.040	↓	.033	
598	458.20	2.611	.080	180°	.035	↓

*MEASURED FROM NOSE

Table IV. (CONTINUED)
(External Tank)

T/C NO.	x_T FS	x_{ms}^*	$\frac{x}{L}$	θ	SKIN THICKNESS	REMARKS
599	588.75	4.896	.150	180°	.035	
600	682.00	6.528	.200	↑	.034	
601	775.25	8.159	.250		.035	
602	868.50	9.791	.300		↑	
603	961.75	11.423	.350		↓	
604	1008.38	12.239	.375		.035	
605	1055.00	13.055	.400		.034	
606	1101.62	13.871	.425		↑	
607	1148.25	14.687	.450		↑	
608	1194.88	15.503	.475		↓	
609	1241.50	16.319	.500		.034	
610	1288.12	17.135	.525		.035	
611	1334.75	17.951	.550		.035	
612	1381.38	18.767	.575		.034	
613	1428.00	19.582	.600		↑	
614	1474.62	20.398	.625		↑	
615	1521.25	21.214	.650		↓	
616	1567.88	22.030	.675		↓	
617	1614.50	22.846	.700		.034	
618	1707.75	24.478	.750		.035	
619	1801.00	26.110	.800		.035	
620	1894.25	27.742	.850		.035	
621	1987.5	29.374	.900		.034	
622	2056.50	30.581	.937	↓	.034	
623	2127.38	31.822	.975	180°	.034	
624	458.20	2.611	.080	194°	.035	
625	587.75	4.896	.150	196°	.035	
626	868.50	9.791	.300	196°	.035	

*MEASURED FROM NOSE

Table VI. (Concluded)
(External Tank)

T/C NO.	x_T FS	x_{ms}^*	$\frac{x}{L}$	θ	SKIN THICKNESS	REMARKS
627	1241.50	16.319	.500	196°	.034	
628	1614.50	22.846	.700	196°	.034	
629	1987.50	29.374	.900	197°	.034	
630	588.75	4.896	.150	208°	.033	
631	1055.00	13.055	.400	↑	.034	
632	1428.00	19.582	.600	↓	.035	
633	1801.00	26.110	.800	↓	.035	
634	2056.50	30.581		208	.035	
635	1055.00	13.055	.400	216°	.034	
636	1241.50	16.319	.500	216°	.034	
637	1614.50	22.846	.700	216°	.034	
638	933.78	10.934	.335	222.5°	.036	
639	1055.00	13.055	.400	229°	.034	
640	1428.00	19.582	.600	229°	.035	
641	1801.00	26.110	.800	229°	.035	

*MEASURED FROM NOSE

TABLE V.
THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 1

<u>Channel No.</u>	<u>T/C No.</u>	<u>Channel No.</u>	<u>T/C No.</u>	<u>Channel No.</u>	<u>T/C No.</u>
1	1	33	34	65	68
2	2	34	35	66	69
3	3	35	36	67	71
4	4	36	37	68	72
5	5	37	38	69	74
6	6	38	39	70	90
7	7	39	40	71	91
8	8	40	41	72	92
9	9	41	42	73	93
10	10	42	43	74	94
11	11	43	44	75	95
12	12	44	45	76	96
13	14	45	46	77	97
14	15	46	47	78	98
15	16	47	48	79	99
16	17	48	49	80	100
17	18	49	50	81	101
18	19	50	51	82	102
19	20	51	52	83	103
20	21	52	53	84	104
21	22	53	54	85	105
22	23	54	56	86	111
23	24	55	58	87	115
24	25	56	59	88	116
25	26	57	60	89	134
26	27	58	61	90	135
27	28	59	62	91	150
28	29	60	63	92	155
29	30	61	64	93	156
30	31	62	65	94	157
31	32	63	66	95	158
32	33	64	67	96	159
				97	160

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 2

<u>Ch-n No.</u>	<u>T/C No</u>	<u>Ch-n No</u>	<u>T/C No</u>	<u>Ch-n No.</u>	<u>T/C No.</u>
1	161	33	193	65	229
2	162	34	194	66	230
3	163	35	195	67	233
4	164	36	196	68	234
5	165	37	197	69	246
6	166	38	198	70	247
7	167	39	199	71	248
8	168	40	200	72	249
9	169	41	201	73	274
10	170	42	202	74	275
11	171	43	203	75	276
12	172	44	204	76	280
13	173	45	205	77	281
14	174	46	206	78	282
15	175	47	207	79	285
16	176	48	208	80	286
17	177	49	209	81	288
18	178	50	210	82	501
19	179	51	211	83	502
20	180	52	212	84	503
21	181	53	213	85	504
22	182	54	214	86	505
23	183	55	215	87	506
24	184	56	216	88	507
25	185	57	217	89	508
26	186	58	218	90	509
27	187	59	219	91	510
28	188	60	220	92	511
29	189	61	221	93	512
30	190	62	222	94	513
31	191	63	223	95	515
32	192	64	224	96	516
				97	517

TABLE V. - Continued.

THERMOCOUPLE HOOKUP - SCHEDULE

T/C Schedule 3

Chan No	T/C No	Chan No.	T/C No	Chan No.	T/C No
1	519	33	574	65	609
2	521	34	576	66	610
3	523	35	577	67	611
4	526	36	578	68	612
5	529	37	579	69	613
6	531	38	580	70	614
7	533	39	581	71	615
8	535	40	582	72	616
9	537	41	583	73	617
10	539	42	584	74	618
11	541	43	585	75	619
12	544	44	586	76	620
13	546	45	587	77	621
14	548	46	589	78	622
15	550	47	590	79	623
16	552	48	591	80	624
17	555	49	592	81	625
18	557	50	594	82	626
19	558	51	595	83	627
20	561	52	596	84	628
21	562	53	597	85	629
22	563	54	598	86	630
23	564	55	599	87	631
24	565	56	600	88	632
25	566	57	601	89	633
26	567	58	602	90	634
27	568	59	603	91	635
28	569	60	604	92	636
29	570	61	605	93	637
30	571	62	606	94	638
31	572	63	607	95	639
32	573	64	608	96	640
				97	641

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule L

Ch'n No	T/C No	Ch'n No	T/C No	Ch'n No	T/C No
1	77	33	34	65	68
2	78	34	35	66	69
3	79	35	36	67	71
4	80	36	37	68	72
5	81	37	38	69	74
6	82	38	39	70	90
7	83	39	40	71	91
8	84	40	41	72	92
9	85	41	42	73	93
10	86	42	43	74	94
11	87	43	44	75	95
12	12	44	45	76	96
13	14	45	46	77	97
14	15	46	47	78	98
15	16	47	48	79	99
16	17	48	49	80	100
17	18	49	50	81	101
18	19	50	51	82	102
19	20	51	52	83	103
20	21	52	53	84	104
21	22	53	54	85	105
22	23	54	56	86	111
23	24	55	58	87	115
24	25	56	59	88	116
25	26	57	60	89	134
26	27	58	61	90	135
27	28	59	62	91	150
28	29	60	63	92	155
29	30	61	64	93	156
30	31	62	65	94	157
31	32	63	66	95	158
32	33	64	67	96	159
				97	160

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 5

Chan No	T/C No	Chan No	T/C No	Chan No	T/C No
1	Open	33	Open	65	Open
2		34		66	
3		35		67	
4		36		68	
5		37		69	
6		38		70	
7		39		71	
8		40		72	
9		41		73	
10		42		74	
11		43		75	
12		44		76	
13		45		77	
14		46		78	
15		47		79	
16		48		80	
17		49		81	
18		50		82	501
19		51		83	502
20		52		84	503
21		53		85	504
22		54		86	505
23		55		87	506
24		56		88	507
25		57		89	508
26		58		90	509
27		59		91	510
28		60		92	511
29		61		93	512
30		62		94	513
31		63		95	515
32		64		96	516
				97	517

TABLE V. - Continued.

T/C Schedule 6THERMOCOUPLE HOOKUP SCHEDULE

<u>Chan No</u>	<u>T/C No</u>	<u>Chan No</u>	<u>T/C No</u>	<u>Chan No</u>	<u>T/C No</u>
1	59	33	110	65	142
2	60	34	111	66	143
3	61	35	112	67	144
4	62	36	113	68	145
5	63	37	114	69	146
6	64	38	115	70	147
7	65	39	116	71	148
8	66	40	117	72	149
9	67	41	118	73	150
10	68	42	119	74	151
11	69	43	120	75	152
12	70	44	121	76	153
13	71	45	122	77	154
14	72	46	123	78	155
15	73	47	124	79	156
16	74	48	125	80	157
17	75	49	126	81	158
18	76	50	127	82	159
19	88	51	128	83	160
20	89	52	129	84	161
21	90	53	130	85	162
22	91	54	131	86	163
23	92	55	132	87	164
24	101	56	133	88	165
25	102	57	134	89	166
26	103	58	135	90	167
27	104	59	136	91	168
28	105	60	137	92	169
29	106	61	138	93	170
30	107	62	139	94	171
31	108	63	140	95	172
32	109	64	141	96	173
				97	174

7

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULET/C Schedule 7

<u>Ch-n No</u>	<u>T/C No</u>	<u>Ch-n No</u>	<u>T/C No</u>	<u>Ch-n No</u>	<u>T/C No</u>
1	175	33	207	65	255
2	176	34	208	66	256
3	177	35	209	67	258
4	178	36	210	68	259
5	179	37	211	69	260
6	180	38	212	70	261
7	181	39	213	71	262
8	182	40	214	72	263
9	183	41	215	73	264
10	184	42	216	74	265
11	185	43	217	75	266
12	186	44	218	76	267
13	187	45	219	77	268
14	188	46	220	78	269
15	189	47	221	79	270
16	190	48	222	80	271
17	191	49	223	81	272
18	192	50	224	82	273
19	193	51	241	83	274
20	194	52	242	84	275
21	195	53	243	85	276
22	196	54	244	86	277
23	197	55	245	87	278
24	198	56	246	88	279
25	199	57	247	89	280
26	200	58	248	90	281
27	201	59	249	91	282
28	202	60	250	92	283
29	203	61	251	93	284
30	204	62	252	94	285
31	205	63	253	95	286
32	206	64	254	96	287
				97	288

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 8

<u>Channel No.</u>	<u>T/C No.</u>	<u>Channel No.</u>	<u>T/C No.</u>	<u>Channel No.</u>	<u>T/C No.</u>
1	1	33	34	65	84
2	2	34	35	66	85
3	3	35	36	67	86
4	4	36	37	68	87
5	5	37	38	69	93
6	6	38	39	70	94
7	7	39	40	71	95
8	8	40	41	72	96
9	9	41	42	73	97
10	10	42	43	74	98
11	11	43	44	75	99
12	12	44	45	76	100
13	14	45	46	77	225
14	15	46	47	78	226
15	16	47	48	79	227
16	17	48	49	80	228
17	18	49	50	81	229
18	19	50	51	82	230
19	20	51	52	83	231
20	21	52	53	84	232
21	22	53	54	85	233
22	23	54	55	86	234
23	24	55	56	87	235
24	25	56	57	88	236
25	26	57	58	89	237
26	27	58	77	90	238
27	28	59	78	91	239
28	29	60	79	92	240
29	30	61	80	93	Open
30	31	62	81	94	↑
31	32	63	82	95	↓
32	33	64	83	96	Open
				97	

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 2

Channel No.	T/C No.	Channel No.	T/C No.	Channel No.	T/C No.
1	301	33	9	65	42
2	302	34	10	66	43
3	303	35	11	67	44
4	304	36	12	68	45
5	305	37	14	69	46
6	306	38	15	70	47
7	307	39	16	71	48
8	308	40	17	72	49
9	309	41	18	73	50
10	310	42	19	74	51
11	311	43	20	75	52
12	312	44	21	76	53
13	313	45	22	77	54
14	314	46	23	78	56
15	315	47	24	79	58
16	316	48	25	80	93
17	317	49	26	81	94
18	318	50	27	82	95
19	319	51	28	83	96
20	319	52	29	84	97
21	321	53	30	85	98
22	322	54	31	86	99
23	323	55	32	87	100
24	324	56	33	88	91
25	1	57	34	89	108
26	2	58	35	90	110
27	3	59	36	91	112
28	4	60	37	92	92
29	5	61	38	93	109
30	6	62	39	94	113
31	7	63	40	95	114
32	8	64	41	96	Open
				97	Open

TABLE V. - Concluded.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 10.

Chan No	T/C No	Chan No	T/C No	Chan No	T/C No
1	155	33	187	65	219
2	156	34	188	66	220
3	157	35	189	67	221
4	158	36	190	68	222
5	159	37	191	69	223
6	160	38	192	70	224
7	161	39	193	71	Open
8	162	40	194	72	↓
9	163	41	195	73	
10	164	42	196	74	
11	165	43	197	75	
12	166	44	198	76	
13	167	45	199	77	
14	168	46	200	78	
15	169	47	201	79	
16	170	48	202	80	
17	171	49	203	81	
18	172	50	204	82	
19	173	51	205	83	
20	174	52	206	84	
21	175	53	207	85	
22	176	54	208	86	
23	177	55	209	87	
24	178	56	210	88	
25	179	57	211	89	
26	180	58	212	90	
27	181	59	213	91	
28	182	60	214	92	
29	183	61	215	93	
30	184	62	216	94	
31	185	63	217	95	
32	186	64	218	96	
				97	

$$L_o = 1290.3 \text{ IN.}$$

$$L_T = 1865.0$$

$$b_v = 315.72$$

$$b/2 = 468.34$$

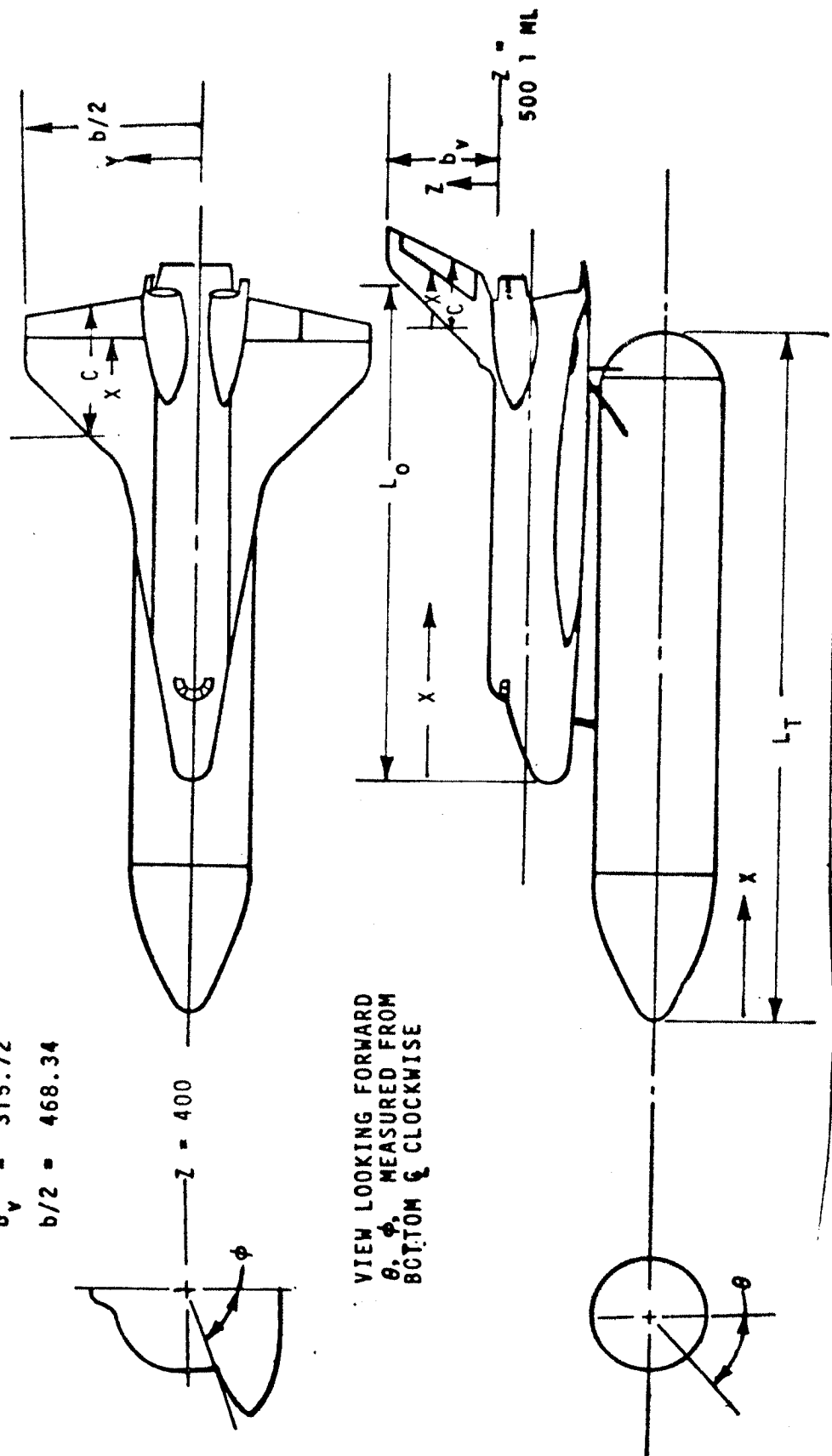
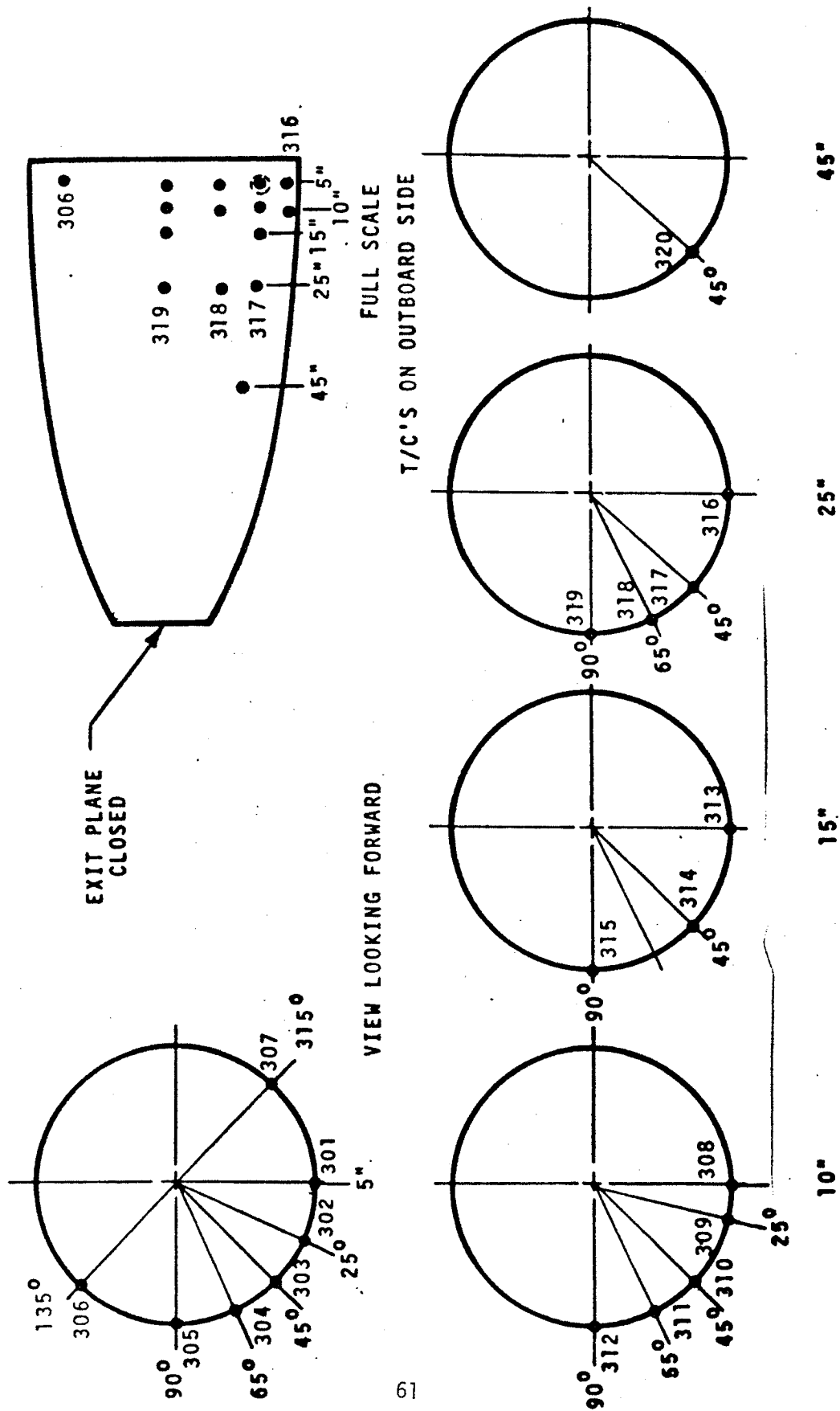
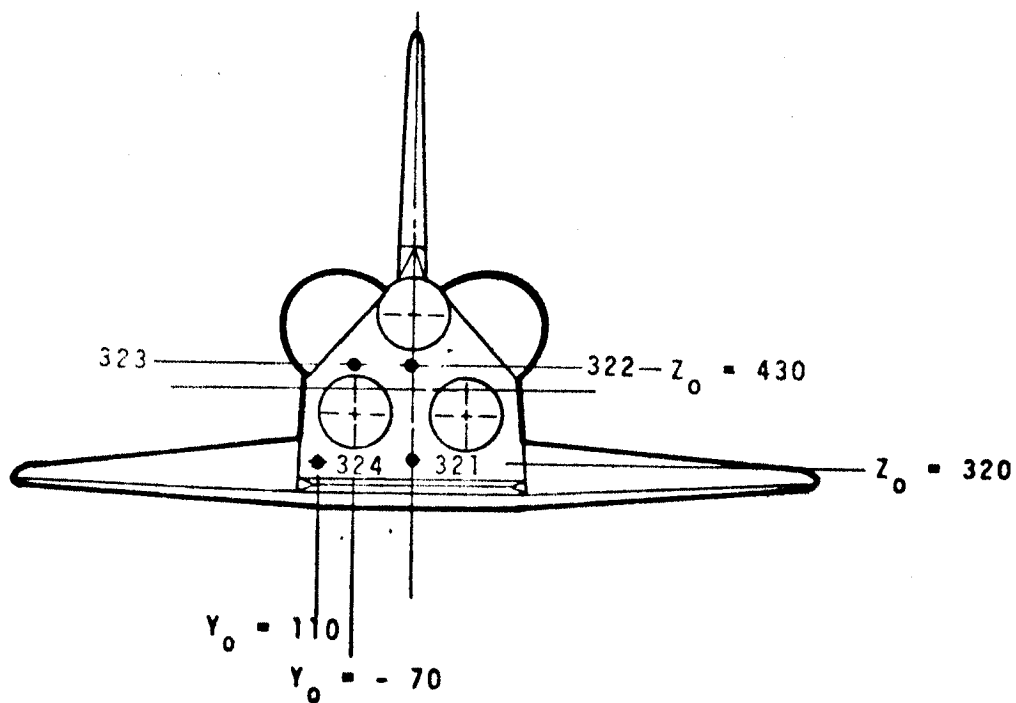


Figure 1. - Model instrumentation reference system.



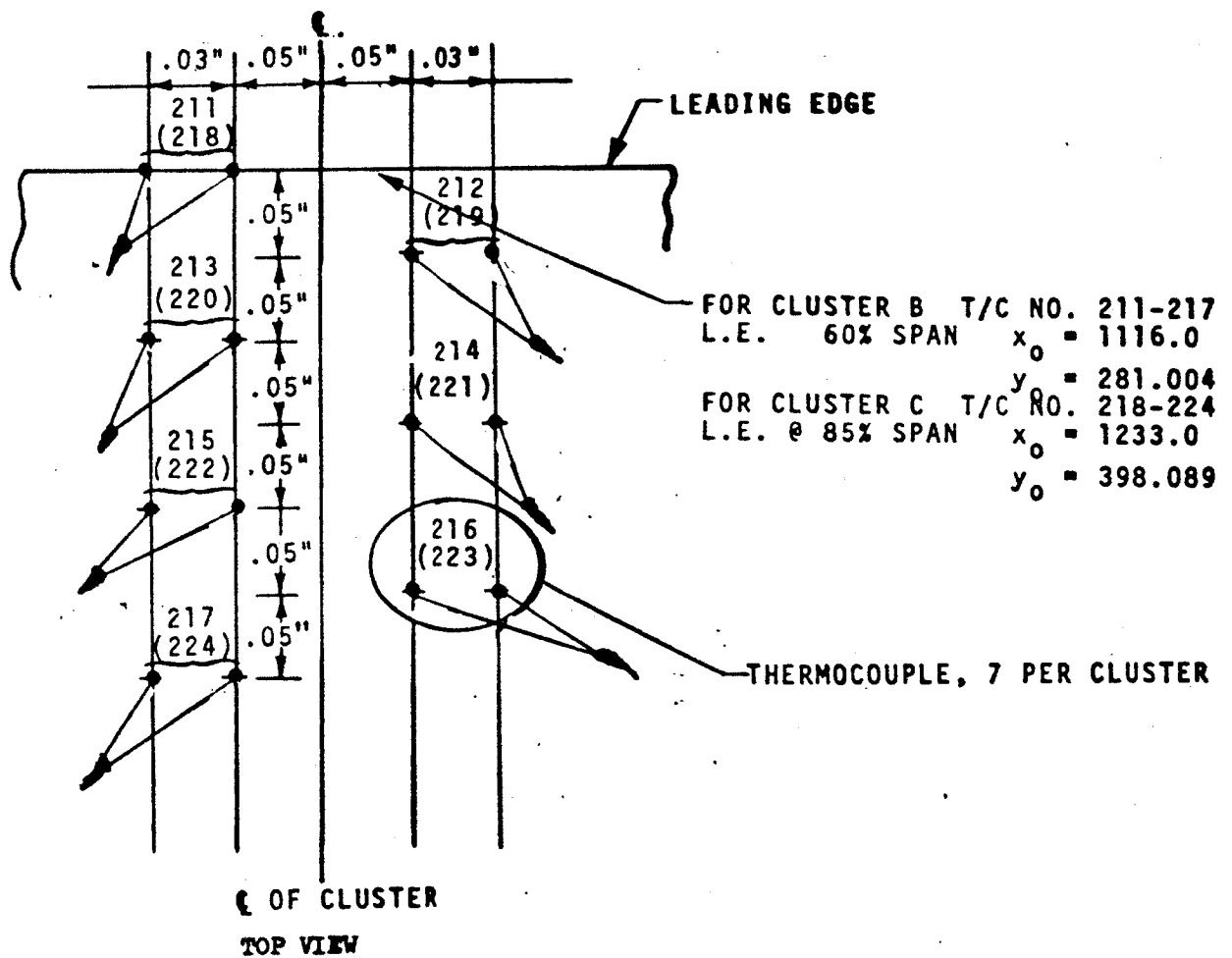
a. 22-OTS Instrumented nozzle

Figure 2. - Orbiter instrumentation.



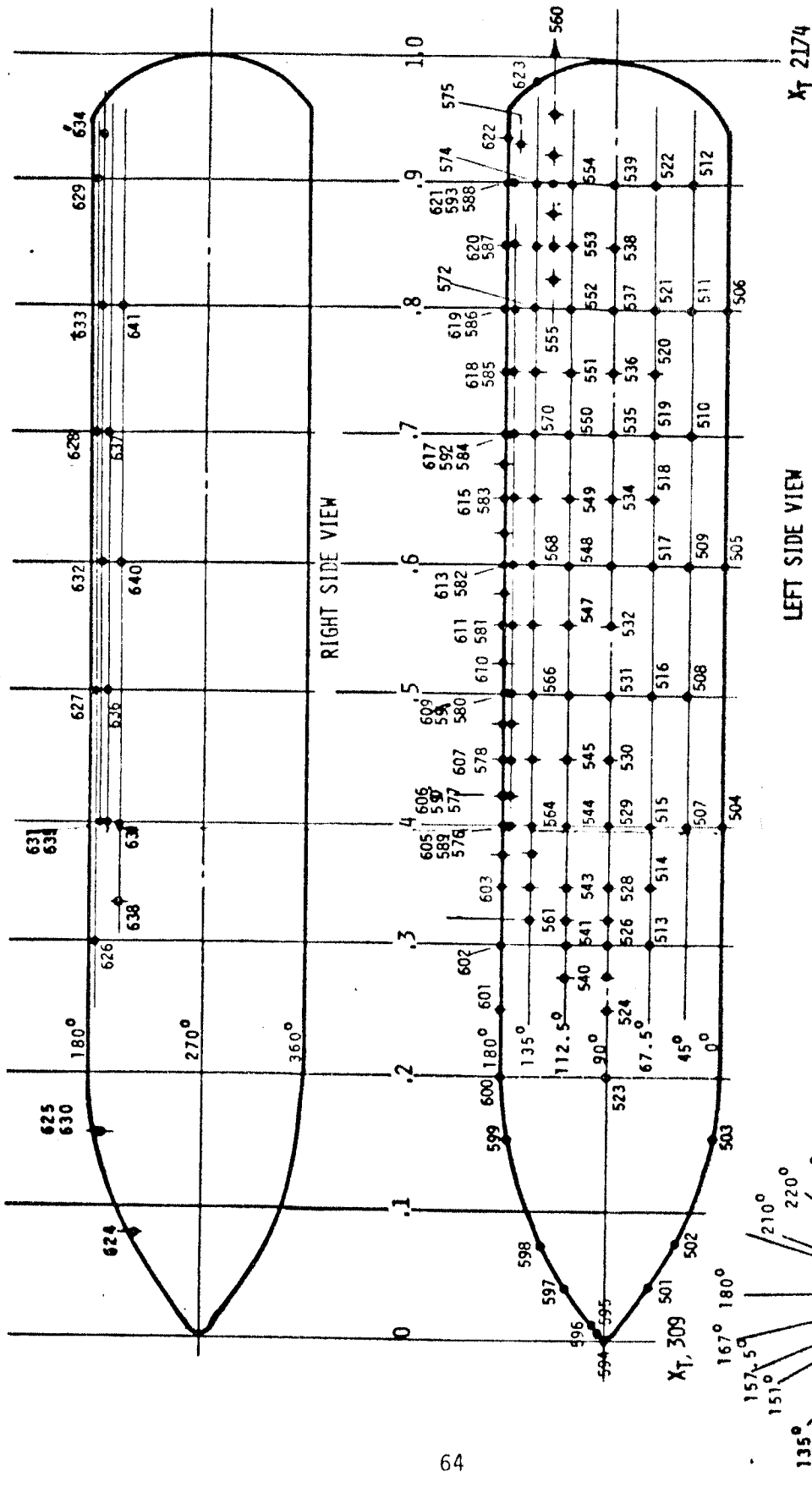
b. Instrumented Nozzle Base Plate
Model 22-OTS

Figure 2. - Continued.



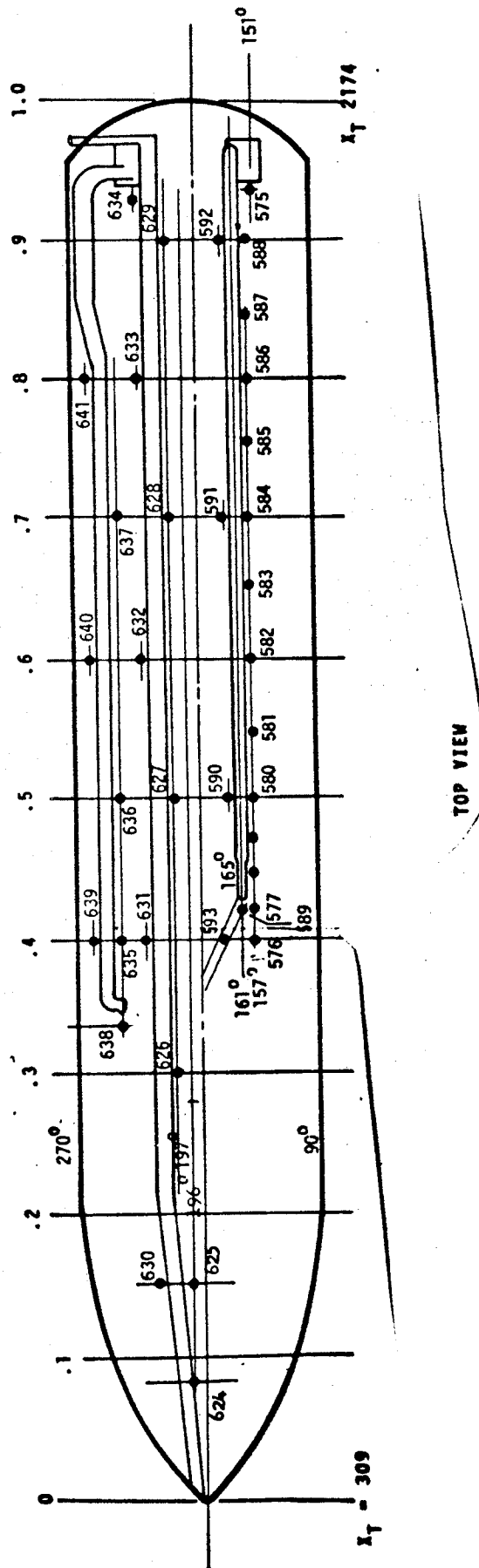
c. Wing Leading Edge Clusters B and C T/C Locations

Figure 2. - Continued.



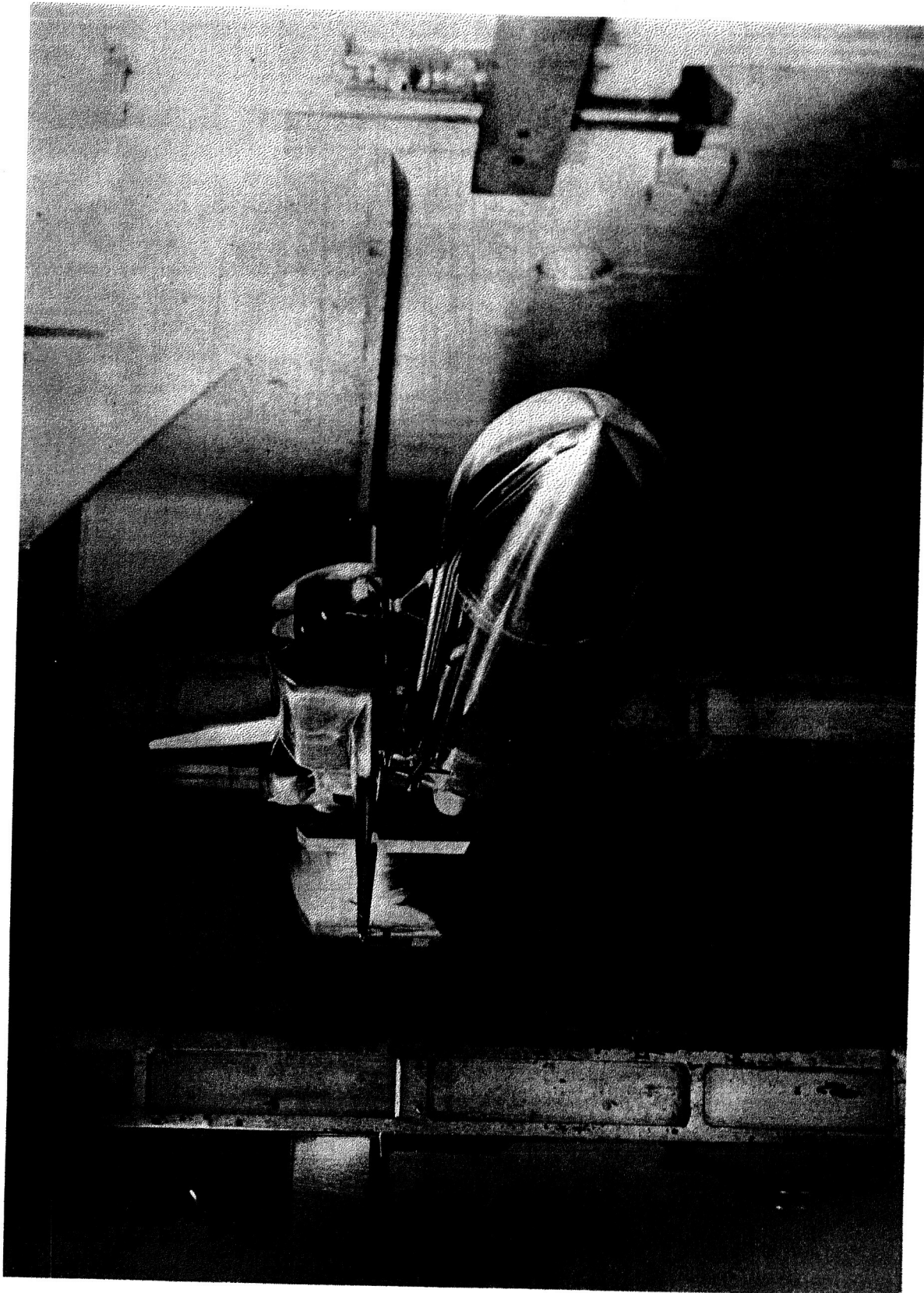
d. External Tank T/C Locations Side Views

Figure 2. - Continued.



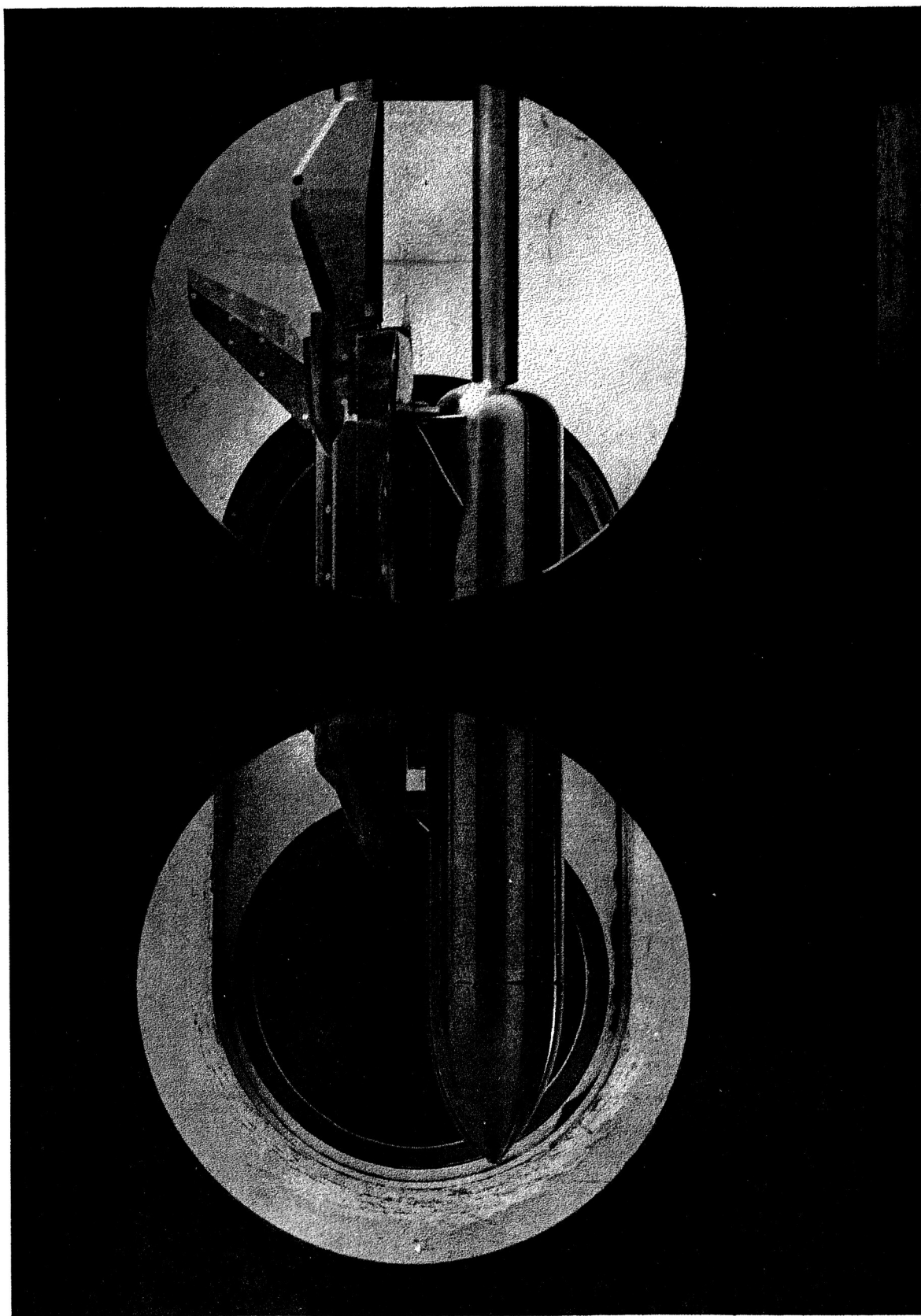
e. External Tank T/C Locations (Locations around plumbing only) Top View

Figure 2. - Concluded.



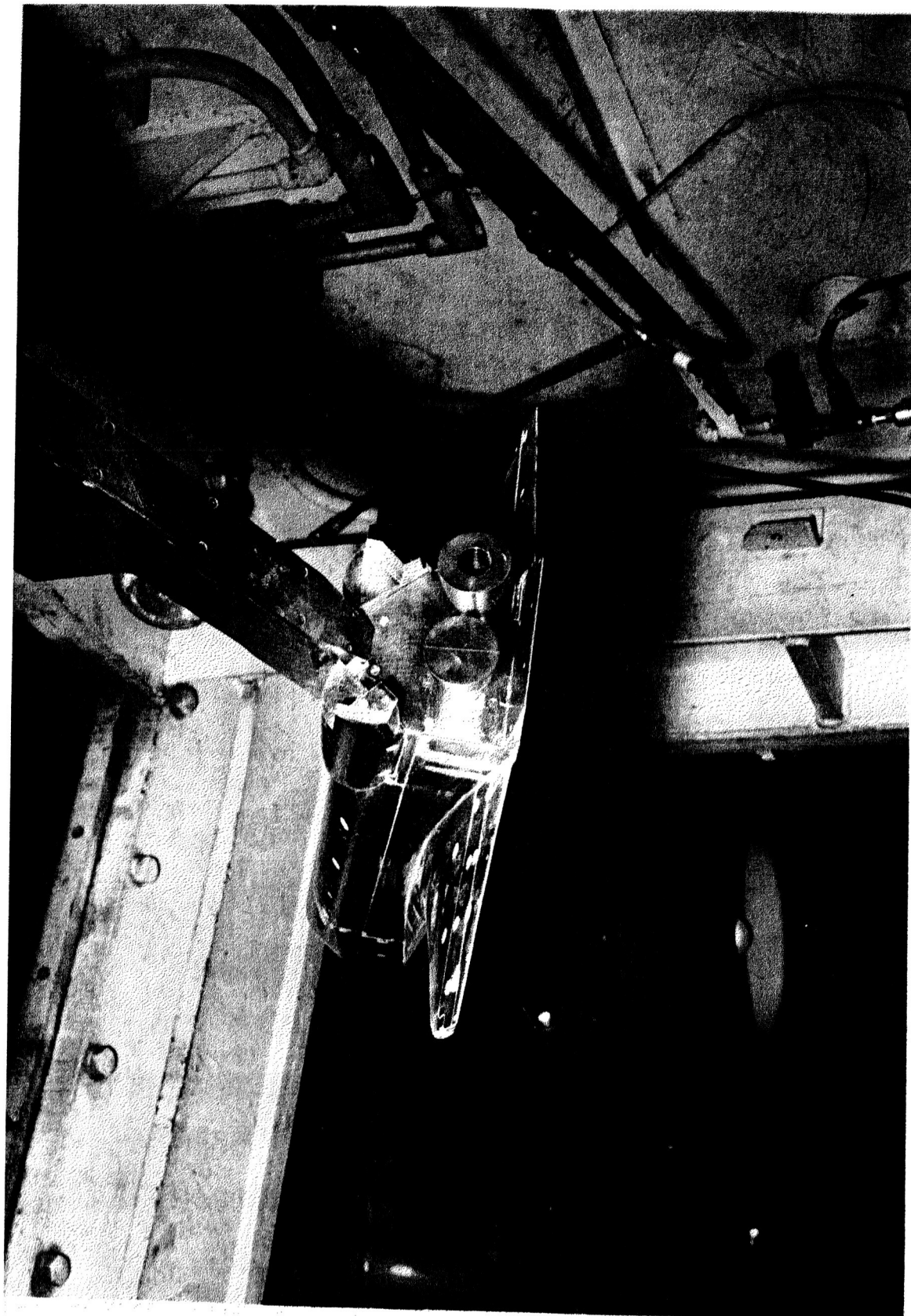
a. Second Stage Configuration Front View

Figure 3. - Model photographs.



b. Second Stage Configuration Side View

Figure 3. - Continued.



c. Re-entry Nozzle Heating Installation

Figure 3. - Concluded.

APPENDIX

TABULATED SOURCE DATA

Recovery Factor = 0.85
Recovery Factor = 0.0

Components are designated by the 4th character in the dataset identifier.

T	tank
B	orbiter fuselage
L	bottom wing surface
U	upper wing surface
V	vertical tail
N	left main nozzle
R	RCS center
P	base plate
M	OMS pod
Y	orbiter fuselage, $Y = 0.875$
C	wing upper crease
F	orbiter fuselage, $Y = 7.525$

DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

PAGE 1

AEDC VA352 OH4B 01+11D EXTERNAL TANK

(8TKT01) (29 APR 74)

REFERENCE DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .850

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HQ

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT

.000	.8691													
.005	.5361													
.010	.8002													
.040	.3611													
.080	.3800									.2035				
.150	.1183									.1583				.1013
.200	.0707									.0587				
.250	.0587													
.275	.0765									.0534				
.300	.0824													
.325	.0733													
.350	.1398													
.375	.2879													
.400	.5239													
.425	.0863													
.450	.0333									.1229				
.475	.1769													
.500	.1573													
.525	.1127													
.550	.0827													
.575	.0742													.0716
.600	.0772													
.625	.0903													
.650	.0747									.0819				
.675	.0469													
.700	.0506													.0327
.725	.0393													
.750	.0652													
.800	.0334													
.825	.0189													
.850	.0609													
.875	.0713									.0151				
.900	.0313													
.925	.0401									.0763				.0724
.935	.0000													
.960	.0149													
.937	.0000													
.960	.0000													.1506
.975	.0000													.0257

PHI 216.0000222.5000229.0000

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HI/HO

FHI 216.0000222.5000229.0000

X/LT

.335	.5654
.400	.0755
.500	.1338
.600	.0378
.700	.0542
.800	.0000

MACH (1) = 8.000 ALPHA (2) = -5.000

TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HI/HO

FHI .0000 45.0000 67.5000 90.0000112.5000123.0000135.0000151.0000157.0000161.0000165.0000180.0000196.0000197.0000208.0000

X/LT

.000	.9163
.005	.6167
.010	.9370
.040	.3161
.0751	.2534
.080	.1471
.0807	.0799
.150	.0305
.200	.0135
.250	.0105
.275	.0388
.300	.0206
.325	.0605
.350	.0768
.375	.2041
.400	.6270
.425	.0737
.450	.0218
.475	.1334
.500	.1384
.525	.0952
.550	.0673
.575	.0582
.600	.0606
.625	.0701
.650	.0615
.675	.0583
.700	.0618
.750	.0421
.800	.0470
.825	.0323
.850	.0361
.875	.0332



TABULATED DATA LISTING FOR OH48 (AEDC VA352)

DATE 23 JAN 75

(BTKT01)

AEDC VA352 OH48 01+T10 EXTERNAL TANK

MACH (1) = 8.000 ALPHA (4) = 5.000

DEPENDENT VARIABLE HI/HO

SECTION (1) EXTERNAL TANK

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 195.0000 197.0000 208.0000

X/LT	.350	.375	.400	.425	.450	.475	.500	.525	.550	.575	.600	.625	.650	.675	.700	.750	.800	.825	.850	.875	.900	.925	.935	.937	.960	.975
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.0120	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0200	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0220	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0281	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0367	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0389	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0415	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0450	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0448	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0430	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0740	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0364	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0563	.0075	.0120	.0200	.0309	.0390	.0473	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509	.0509
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

PHI 216.0000 222.5000 229.0000

X/LT	.335	.400	.500	.600	.700	.800
.0020	.0020	.0437	.0390	.0361	.0000	.0000

DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(BTKT02)

AEDC VA352 CH48 01+T10 EXTERNAL TANK

MACH (1) = 8.000 BETA (1) = -2.000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/H0

PH1 216.0000222.5000229.0000

X/LT

.335	.0110
.400	.0429
.500	.0774
.600	.0134
.700	.0396
.800	.0000

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/H0

PH1 .0000 45.0000 67.5000 90.0000112.5000123.0000135.0000151.0000157.0000161.0000165.0000180.0000196.0000208.0000

X/LT

.000	.9369
.005	.5912
.010	.8593
.040	.2487
.080	.2134
.100	.1283
.150	.0614
.348	.0386
.350	.0193
.355	.0556
.375	.0058
.400	.0035
.425	.0254
.450	.0198
.475	.0365
.500	.0418
.525	.1489
.550	.5050
.575	.0550
.600	.0247
.625	.0954
.650	.0598
.675	.0655
.700	.0701
.750	.0602
.800	.0528
.825	.0444
.850	.0355
.875	.0383
.900	.0331
.925	.0465
.950	.0283
.975	.0364
.990	.0349
.995	.0142
.999	.0499
.999	.0634
.999	.0142
.999	.0352
.999	.0231
.999	.0234
.999	.0336
.999	.0248

(BTXT02)

AEDC VA352 CH48 01+T10 EXTERNAL TANK

MACH (1) = 6.000 BETA (2) = .000

SECTION (1) EXTERNAL TANK DEFENDENT VARIABLE HI/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT

.950
.925
.935
.937
.965
.975

.0340

.0715

.0501

.0000

.0414

.0295

.0000

.0055

.0000

.0205

.0000

.0205

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.1190

.1175

.0171

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

PHI 216.0000 222.5000 229.0000

X/LT

.335
.400
.500
.600
.700
.800

.0354
.0195
.0000

.0044

.0329

.1285

.0467



AEDC VA352 CH4B 01+T10 EXTERNAL TANK

(8TKT03) (29 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .850

MACH (1) = 8.000 ALPHA (1) = -10.000 T1 = 93.425 Q1 = .682 HREF = .020

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/H0

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT

.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010	.010
.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040	.040
.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080	.080
.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150
.200	.200	.200	.200	.200	.200	.200	.200	.200	.200	.200	.200	.200	.200	.200
.250	.250	.250	.250	.250	.250	.250	.250	.250	.250	.250	.250	.250	.250	.250
.275	.275	.275	.275	.275	.275	.275	.275	.275	.275	.275	.275	.275	.275	.275
.300	.300	.300	.300	.300	.300	.300	.300	.300	.300	.300	.300	.300	.300	.300
.325	.325	.325	.325	.325	.325	.325	.325	.325	.325	.325	.325	.325	.325	.325
.350	.350	.350	.350	.350	.350	.350	.350	.350	.350	.350	.350	.350	.350	.350
.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375
.400	.400	.400	.400	.400	.400	.400	.400	.400	.400	.400	.400	.400	.400	.400
.425	.425	.425	.425	.425	.425	.425	.425	.425	.425	.425	.425	.425	.425	.425
.450	.450	.450	.450	.450	.450	.450	.450	.450	.450	.450	.450	.450	.450	.450
.475	.475	.475	.475	.475	.475	.475	.475	.475	.475	.475	.475	.475	.475	.475
.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500
.525	.525	.525	.525	.525	.525	.525	.525	.525	.525	.525	.525	.525	.525	.525
.550	.550	.550	.550	.550	.550	.550	.550	.550	.550	.550	.550	.550	.550	.550
.575	.575	.575	.575	.575	.575	.575	.575	.575	.575	.575	.575	.575	.575	.575
.600	.600	.600	.600	.600	.600	.600	.600	.600	.600	.600	.600	.600	.600	.600
.625	.625	.625	.625	.625	.625	.625	.625	.625	.625	.625	.625	.625	.625	.625
.650	.650	.650	.650	.650	.650	.650	.650	.650	.650	.650	.650	.650	.650	.650
.675	.675	.675	.675	.675	.675	.675	.675	.675	.675	.675	.675	.675	.675	.675
.700	.700	.700	.700	.700	.700	.700	.700	.700	.700	.700	.700	.700	.700	.700
.750	.750	.750	.750	.750	.750	.750	.750	.750	.750	.750	.750	.750	.750	.750
.800	.800	.800	.800	.800	.800	.800	.800	.800	.800	.800	.800	.800	.800	.800
.825	.825	.825	.825	.825	.825	.825	.825	.825	.825	.825	.825	.825	.825	.825
.850	.850	.850	.850	.850	.850	.850	.850	.850	.850	.850	.850	.850	.850	.850
.875	.875	.875	.875	.875	.875	.875	.875	.875	.875	.875	.875	.875	.875	.875
.900	.900	.900	.900	.900	.900	.900	.900	.900	.900	.900	.900	.900	.900	.900
.925	.925	.925	.925	.925	.925	.925	.925	.925	.925	.925	.925	.925	.925	.925
.935	.935	.935	.935	.935	.935	.935	.935	.935	.935	.935	.935	.935	.935	.935
.937	.937	.937	.937	.937	.937	.937	.937	.937	.937	.937	.937	.937	.937	.937
.960	.960	.960	.960	.960	.960	.960	.960	.960	.960	.960	.960	.960	.960	.960
.975	.975	.975	.975	.975	.975	.975	.975	.975	.975	.975	.975	.975	.975	.975

AEDC VA352 CH4B 01+T10 EXTERNAL TANK

(BTKT03)

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HQ

FHI 216.0000222.5000229.0000

X/LT

.335	.0270
.400	.0698
.500	.1666
.600	.0090
.700	.0335
.800	.0000

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 93.425 Q1 = .682 HREF = .020

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HQ

FHI .0000 45.0000 67.5000 90.0000112.5000123.0000135.0000151.0000157.0000165.0000180.0000196.0000197.0000208.0000

X/LT

.000	.9263
.005	.4874
.010	.7207
.040	.2681
.080	.2291
.150	.0774
.200	.0331
.250	.0172
.275	.0097
.300	.0180
.325	.0141
.350	.0256
.375	.0337
.400	.1140
.425	.3684
.450	.0635
.475	.0290
.500	.1081
.525	.0516
.550	.0464
.575	.0514
.600	.0467
.625	.0390
.650	.0417
.675	.0440
.700	.0349
.750	.0284
.800	.0247
.825	.0156
.850	.0124
.875	.0123

55

DEPENDENT VARIABLE HI/HQ

FFMI 45,0000 67,5000 90,0000 112,5000 123,5000 135,0000 151,0000 157,0000 161,0000 165,0000 180,0000 197,0000 208,0000

[illegible]

PHI 216.0000222,5000229.0000

X/LT	
.335	.0036
.400	.0110
.500	.0550
.600	.0060
.700	.0241
.800	.0000

MACH (1) =	0.000	ALPHA (4) =	5.000	TI	=	93.425	QI	=	.682	HREF	=	.020
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SECTION (1) EXTERNAL TANK

PHI
0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

[illegible]

REFERENCE DATA

```

SREF = .8230 SQ.FT.  XGRP = .0000 IN.
LREF = 22.5003 IN.    YGRP = .0000 IN.
BREF = 16.3919 IN.    ZGRP = .0000 IN.
SCALE = .0175 SCALE

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MACH (1) = 8.000 BETA (1) = -2.000

SECTION (1) EXTERNAL TASK

DEPENDENT VARIABLE HI/H3

FPI
97.0000 67.5000 97.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 189.0000 196.0000 197.0000 208.0000

17/18

[illegible]

PHI 216.0000222.5000229.0000



(8TKT04)

AEDC VA352 OH4B 01+T10 EXTERNAL TANK

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT														
.900	.0059	.0000	.0113	.0000	.0128	.0315	.0000	.0103	.0222		.0126			
.925					.0000									
.935							.0000							
.937														
.960					.0000				.0816				.0546	
.975									.0110					

PHI 216.0000 222.5000 229.0000

X/LT														
.335	.0036													
.400	.0110	.0106												
.500	.0550													
.600		.0060												
.700	.0241													
.800		.0000												



(BTKT06)

AEDC VA352 OH48 T10 EXTERNAL TANK

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PHI 216.0000222.5000229.0000

X/LT

.335	.0669
.400	.0770
.500	.0484
.600	.0153
.700	.0282
.800	.0000

MACH (1) = 6.000 ALPHA (2) = -5.000 TI = 97.667 QI = 3.957 HREF = .049

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PHI .0000 45.0000 67.5000 90.0000112.5000123.0000135.0000151.0000157.0000165.0000180.0000196.0000208.0000

X/LT

.000	.9219
.005	.6318
.010	.9129
.040	.3082
.080	.2569
.150	.0801
.200	.0300
.250	.0142
.275	.0108
.300	.0388
.325	.0150
.350	.0168
.375	.0244
.400	.0557
.425	.4106
.450	.1058
.500	.0276
.525	.0207
.550	.0694
.575	.0681
.600	.0506
.625	.0421
.650	.0370
.675	.0366
.700	.0366
.750	.0366
.800	.0387
.825	.0378
.850	.0187
.875	.0358

(87KT06)

AEDC VA352 CH4B T10 EXTERNAL TANK

MACH (1) = 8.000 ALPHA (3) = .000

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HU/HO

FM1 .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 165.0000 180.0000 198.0000 197.0000 208.0000

X/LT													
.600	.0365	.0068	.0000	.0067	.0242	.0238	.0184	.0333				.0179	
.625								.0307					
.650				.0000	.0000	.0184	.0162	.0276					
.675								.0267					
.700	.0060	.0170	.0107	.0254	.0224	.0224	.0188	.0124	.0252	.0127			
.750	.0600	.0600	.0000	.0000	.0226	.0226	.0176	.0265	.0265				
.800	.0061	.0062	.0062	.0245	.0225	.0225	.0134	.0265				.0138	
.825				.0258									
.850				.0000	.0340	.0340	.0129	.0235					
.875				.0251									
.900	.0059	.0000	.0220	.0000	.0310	.0310	.0000	.0178	.0268	.0182			
.925				.0000									
.935													
.937													
.960									.0569			.0620	
.975									.0091				

FM1 216.0000 222.5000 229.0000

X/LT				
.335		.0042		
.400	.0333		.0333	
.500	.0206			
.600		.0213		
.700	.0202			
.800		.0000		



TABLETED DATA LISTING FOR CH4B (AEDC VA352)

AEDC VA352 OH4B T10

REFERENCE DATA

3REF =	.8250 SQ.FT.	ZWRP =	.0000 IN.
LREF =	22.5003 IN.	ZWRP =	.0000 IN.
BREF =	16.3919 IN.	ZWRP =	.0000 IN.
SCALE =	.0175 SCALE		

ALPHA	=	.000	RN/L	=	3.720
B.FLAP	=	.000	ELEVON	=	.000
HAW/HT	=	.850			

	-	.07650	df	=	3.953	HREF	=	.049
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SECTION (1) EXTERNAL TANK

DEFENDENT VARIABLE HU/HQ

FBI 0000 45.0000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

[illegible]

(8TKT07)

AEDC VA352 CH48 T10 EXTERNAL TANK

MACH (1) = 8.000 BETA (1) = -2.000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/H0

FH1 216.0000222.5000229.0000

X/LT

.335 .0107
.400 .0448 .0402
.500 .0259
.600 .0204
.700 .0177
.800 .0000

MACH (1) = 8.000 BETA (2) = .000 T1 = 97.650 Q1 = 3.953 HREF = .049

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HU/H0

FH1 .0000 43.0000 67.5000 90.0000112.5000123.0000135.0000151.0000157.0000165.0000180.0000196.0000197.0000208.0000

X/LT

.000 .9534
.005 .5989
.010 .8260
.040 .2451
.080 .2165 .1308
.100 .0590 .0580
.150 .0188
.200 .0072
.250 .0061 .0270
.275 .0047
.300 .0059
.325 .0184
.350 .0471
.375 .3276
.400 .0839
.425 .0234 .0351
.450 .0529
.475 .0474
.500 .0388
.525 .0333
.550 .0307
.575 .0276
.600 .0267
.625 .0124 .0127
.650 .0188
.675 .0176
.700 .0134
.750 .0265
.800 .0265
.850 .0138
.875 .0235



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(8TKT07)

AEDC VA352 CH4B T10 EXTERNAL TANK

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HJ/H0

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.900	.925	.935	.937	.960	.975
	.0059	.0000	.0220	.0000	.0341	.0310
					.0000	.0000
					.0000	.0000
					.0178	.0268
						.0182
					.0569	.0620
					.0091	

PHI 216.0000 222.5000 229.0000

X/LT	.335	.400	.500	.600	.700	.800
	.0042	.0333	.0206	.0213	.0202	.0300

DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(BTKT08)

AEDC VA352 OH4B T10 EXTERNAL TANK

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HU/HO

PHI 216.0000222.5000229.0000

X/LT

.333 .0286
.400 .0690 .0628
.500 .0298 .0032
.600 .0197 .0000
.800

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 92.367 Q1 = .670 HREF = .020

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HU/HO

PHI .0000 45.0000 67.5000 90.0000112.5000123.0000135.0000151.0000157.0000163.0000180.0000196.0000197.0000208.0000

X/LT

.000 .9397
.005 .4927
.010 .7083
.040 .2678 .0988
.080 .0789 .0766 .0341
.150 .0240 .0301
.200 .0191 .0170
.250 .0000 .0143 .0215
.275 .0000 .0103
.300 .0082 .0139 .0066 .0579
.325 .0000 .0000 .0155 .0155
.350 .0000 .0000 .0151 .0170
.375 .0033 .0063 .0078 .0103 .0125 .0090 .0146 .0197 .0000 .0132
.400 .0000 .0000 .0000 .0122 .0106 .0194 .0164 .0282
.425 .0000 .0000 .0000 .0134 .0116 .0116 .0439
.450 .0000 .0000 .0000 .0203 .0096 .0387
.475 .0000 .0000 .0000 .0284 .0081 .0321
.500 .0033 .0043 .0000 .0084 .0102 .0331
.525 .0000 .0000 .0000 .0000 .0269
.550 .0000 .0000 .0000 .0000 .0247
.575 .0040 .0092 .0087 .0125 .0075 .0264 .0143
.600 .0000 .0000 .0000 .0000 .0225 .0241
.625 .0000 .0000 .0000 .0000 .0252 .0239
.650 .0037 .0032 .0052 .0060 .0183 .0054
.675 .0000 .0000 .0000 .0000 .0110 .0060
.700 .0000 .0000 .0000 .0000 .0232 .0293
.750 .0000 .0000 .0000 .0000
.800 .0000 .0000 .0000 .0000
.825 .0000 .0000 .0000 .0000
.850 .0000 .0000 .0000 .0000

DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(BTKT08)

AEDC VA352 CH4B T10 EXTERNAL TANK

MACH (1) = 8.000 ALPHA (3) = .000

DEPENDENT VARIABLE MU/HO

SECTION (1) EXTERNAL TANK

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 133.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.000	.0063	.0072	.0000	.0071	.0065	.0057	.0077	.0279	.0063
.625				.0005	.0050	.0000	.0054	.0077	.0262	
.650									.0239	
.675									.0230	
.700		.0071	.0056	.0068	.0060	.0060	.0061	.0107	.0207	.0071
.750			.0000	.0000	.0000	.0000	.0059	.0088	.0207	
.800	.0060	.0061	.0064	.0070	.0057		.0062	.0060	.0218	.0053
.825						.0029				
.850				.0000	.0000	.0000	.0051	.0042	.0189	
.875						.0035				
.900		.0053	.0000	.0045	.0000	.0113	.0136	.0000	.0072	.0072
.925						.0000				
.935										
.937										
.960									.0367	.0415
.975						.0000			.0086	

PHI 216.0000 222.5000 229.0000

X/LT	.335	.0053	.0114	.0028	.0094
.400					
.500	.0094				
.600	.0086				
.700					
.800					

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LRFP = 22.5803 IN. YMRP = .0000 IN.
 BRFP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .850

MACH (1) = 8.000 BETA (1) = -2.000 T1 = 92.200 Q1 = .660 HREF = .020

SECTION (1) EXTERNAL TANK DEFENDENT VARIABLE MU/HQ

FH1 .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT														
.000														.9529
.005														.4956
.010														.5684
.040														.2390
.080														.1709
.150														.0901
.200														.0503
.250														.0189
.275														.0090
.300														.0081
.325														.0053
.350														
.375														
.400														
.425														
.450														
.475														
.500														
.525														
.550														
.575														
.600														
.625														
.650														
.675														
.700														
.750														
.800														
.825														
.850														
.875														
.900														
.925														
.935														
.937														
.960														
.975														

FH1 216.0000222.5000229.0000



(BTXTD9)

AEDC VA352 CH48 T10 EXTERNAL TANK

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) EXTERNAL TANK DEFENDENT VARIABLE MU/HQ

FH1 .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.900	.925	.935	.937	.960	.975
	.0033	.0000	.0045	.0000	.0113	.0136
	.0000	.0000	.0000	.0000	.0000	.0000
	.0072	.0129	.0072	.0072	.0367	.0415
	.0000	.0000	.0000	.0000	.0086	.0000

FH1 216.0000 222.5000 229.0000

X/LT	.335	.400	.500	.600	.700	.800
	.0033	.0094	.0086	.0094	.0000	.0000
	.0114	.0028	.0000	.0000	.0000	.0000



(BTRB01)

AEDC VA352 CH48 01+119 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) ORBITTER FUSELAGE DEFENDENT VARIABLE HI/HO

X/L .1630 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000 .0598

21.500 .0519

23.000 .0346

24.000 .1662

31.500 .0000

34.000 .0000

35.000 .0000

40.000 .0000

45.000 .0000

51.000 .0000

57.500 .0000

59.500 .0613

61.000 .0000

65.000 .0000

70.000 .0000

96.500 .0000

105.000 .0497

106.000 .0000

135.000 .0000

140.000 .0000

141.400 .0000

151.000 .0000

180.000 .0531

.0000

.0817

.0064

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X/L

PHI:



AEDC VA352 OH48 O1+T10 ORB. FUSELAGE

(BTK801)

MACH (1) = 0.000 ALPHA (2) = -5.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HI/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1550	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI															
156.000													.0000		.0000
159.200															
170.700										.0000		.0000			.0000
171.900															
173.400		.0374				.0500									
180.000					.1586	.9745				1.0366			.6774		

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
.000		.1444		.1422	.0763	.0824	.0663	.0423	.0493	.0394	.0427	.0484	.0525	.0475	.0410
11.500				.1610											
12.000								.0486							
21.500								.0310				.0486			
23.000															
24.000				.1591											
31.500				.0000											
34.000				.0000											
35.000				.0000											
40.000				.0000											
45.000				.0000											
51.000				.0000											
57.500				.0000											
59.500				.0000											
61.000				.0000								.0678			
65.000				.0000											
70.000				.0000											
96.500				.0000											
105.000				.0000											
106.000				.0000											
135.000				.0000				.0330			.0355				
140.000				.0000				.0000			.0000				
141.400	.0000			.0000											
151.000		.0000		.0000											
180.000			.1161	.0000	.0000	.0000	.0068				.0094				

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0376	.0364	.0409	.0444	.0459	.0430	.0361	.0327	.0314	.0308	.0292	.0195	.1058	.1491	
21.500	.0408				.0316				.0301				.1117		
63.000	.0000														
64.000															
65.000					.0000				.0000						
65.500					.0000									.0000	



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(87K801)

AEDC VA352 OH4B 01+T10 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = -5.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000					.0000				.0000		.0000				
135.000	.0000				.0000				.0000		.0000				
149.000					.0548				.0000		.0000				
180.000	.0000								.0000						

X/L	.8500	.8750	.9000	.9250	.9500	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI											
21.500	.0983	.0349	.0131	.0083	.0057	.0000	.0000	.0039	.0000	.0027	
39.000					.0067					.0065	
52.500					.0000						
55.000					.0000						
65.000					.0000						
68.000					.0000						
100.000	.0000				.0000						
106.000	.0000				.0000						
112.000					.0000						
113.000					.0000						

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.603 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.0000	.4543	.2806	.1227	.0802	.0440	.0461	.0755	.0000				.1171	.2214	.6872
10.000							.0418								.0000
14.000															.1167
20.000							.0449								.0000
22.000															.0325
24.500							.0828								
35.000							.0000								.0000
39.000							.0000								
42.500							.0000								
48.000							.0000								
60.000							.0000								
115.000					.2288		.1520				.1052				.0000
180.000			.4193										.1800	.1810	.1820

X/L

(BTKB01)

AEDC VA352 CH4B 01+110 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = .000

SECTION (1) ORBITTER FUSELAGE DEFENDENT VARIABLE HI/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FHI															
.000	.0682		.5662	.0838	.5891		.5740				.0545		.0412		
10.000					.0000										
20.000					.0717										
25.500					.0000										
40.000					.0442										
45.500					.0000										
131.200									.0000						
145.400														.0000	
146.200														.0000	
156.000														.0000	
159.200														.0000	
170.700															
171.900															
173.400															
180.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FHI															
.000	.1026		.1184	.0643	.0721	.0569	.0426	.0373	.0280	.0276	.0312	.0366	.0373	.0363	
11.500			.0643												
12.000							.0516								
21.500							.0372					.0332			
23.000															
24.000				.0203											
31.500				.0000											
34.000								.0000							
35.000				.0000				.0000							
40.000				.0000				.0000							
45.000								.0000							
51.000				.0000											
57.500								.0000							
59.500												.0330			
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.500				.0000											
105.000															
106.000								.0323				.0259			
135.000								.0000							
140.000				.0000								.0000			
141.400															
151.000			.0000												
160.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
FHI															
.000			.0000	.0962		.0000	.0067					.0048			



(8TK801)

AEDC VA352 OH4B 01+T10 ORB. FUSELAGE

MACH (1) = 0.000 ALPHA (4) = 5.000

SECTION (1) ORBITTER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
FHI															
42.500								.0000							
48.000								.0000				.0000			
60.000								.0000							
119.000															.0000
180.000															.0377

FHI

42.500

48.000

60.000

119.000

180.000

X/L

.1200

.1250

.1300

.1400

.1500

.1560

.1600

.1620

.1670

.1690

.1700

.1780

.1800

.1810

.1820

FHI

.0343

.0437

.0294

.0255

.0214

.0000

.0427

.0000

.0323

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X/L

.1830

.1900

.1910

.2000

.2250

.2500

.2750

.3000

.3250

.3500

.3750

.4000

.4250

.4500

.4750

FHI

.0699

.0757

.0518

.0501

.0357

.0275

.0241

.0224

.0290

.0293

.0266

.0234

.0215

.0283

.0349

.0347

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.0000

.0153

PARAMETRIC DATA

ALPHA	=	.000	RN/L	=	3.720
B.F.LAF	=	.000	ELEVON	=	.000
HAW/HT	=	.850			

.049

.0800	.9900	.1000
.1663	.2442	.7966
		.0000
		.1100
		.0000
		.0314
		.0000

.1800 .1810 .1820

0328

4250	.4500	.4750
0358	.0399	.0373



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

PAGE 41

(81K802)

AEDC VA352 CH4B 01-T10 ORB. FUSELAGE

MACH (1) = 0.000 BETA (1) = -2.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000 .0513 .0413

21.500 .0405

23.000

24.000 .0306

31.500 .0000

34.000 .0000

35.000 .0000

40.000 .0000

45.000 .0000

51.000 .0000

57.500 .0000

59.500 .0000

61.000 .0000

65.000 .0000

70.000 .0000

96.500 .0000

105.000 .0000

106.000 .0404

135.000 .0000

140.000 .0000

141.400 .0000

151.000 .0000

180.000 .1129

.0000 .0000 .0072

.5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

.0327 .0269 .0276 .0313 .0339 .0343 .0317 .0291 .0271 .0271 .0208 .0411 .1358 .1324

.0350 .0360

.0000

.0000

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.0038

.9500 .9250 .9000 .8750 .8500

.9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

.0000 .0000 .0000 .0000 .0000 .0000 .0000

.0000 .0000 .0000 .0000 .0000 .0000 .0000

.0000 .0000 .0000 .0000 .0000 .0000 .0000

.0000 .0000 .0000 .0000 .0000 .0000 .0000

PHI:

AEDC V4352 ORB. FUSELAGE (BTKB02)

MACH (1) = 8.000 BETA (1) = -2.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE H1/H0

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.0070	.0329	.0179	.0114	.0079	.0055	.0055	.0038	.0000	.0037
21.500		.0088								
39.000					.0076					.0068
52.500			.0000	.0000						
55.000			.0000							
65.000			.0000							
68.000			.0000							
100.000			.0000							
108.000			.0000							
112.000				.0000						
113.000										

.0000

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE H1/H0

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0900 .1000

PHI

.000	.0000	.4543	.2806	.1227	.0802	.0440	.0461	.0755	.0000	.1171	.2214	.6872
10.000												.0000
14.000							.0418					.1167
20.000							.0449					.0000
22.000												
24.500							.0828					.0325
35.000							.0000					
39.000							.0000					.0000
42.500												.0828
48.000												.1820
60.000												
119.000							.1520		.1052			
180.000												

X/L

.1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

PHI

.000	.0682	.0662	.0438	.0891	.0740	.0545	.0412
10.000				.0000			
20.000				.0717			
25.500				.0000			
40.000				.0442			
45.500				.0000			
131.200					.0000		
145.400							
146.200							.0000

.0000

.0000

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.9000	.9250	.9500	.9750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		
111.000					.0000									.0000	
112.000					.0000										
113.000					.0000										
116.000					.0000				.0000						
135.000	.0000				.0000				.0000						
149.000					.0161				.0000						
180.000	.0000								.0000				.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.0926	.0345	.0192	.0160	.0104	.0072	.0048	.0000		.0033	.0000	.0025			
21.500			.0149												
39.000							.0057					.0060			
52.500						.0000									
55.000			.0000												
65.000			.0000												
68.000						.0000									
100.000			.0000												
108.000			.0000			.0000			.0000						
112.000															
113.000									.0000						



TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(BTKB03) (29 APR 74)

AEDC VA352 OH48 O1+T10 ORB. FUSELAGE

REFERENCE DATA

3REF =	.8238 SQ.FT.	XMRP =	.0000 IN.
LREF =	22.5803 IN.	YMRP =	.0000 IN.
BREF =	16.3919 IN.	ZMRP =	.0000 IN.
SCALE =	.0175 SCALE		

BETA	=	.000	RN/L	=	.680
B.FLAP	=	.000	ELEVON	=	.000
HAW/HT	=	.850			

03	425	01	=	.682	HREF	=	.020
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DEPENDENT VARIABLE HI/HQ

SECTION (1) ORBITER FUSELAGE

X/L
.0090 .0090 .0100 .0200 .0250 .0375 .0400 .0600 .0800

PHI	.0000	.5897	.3512	.1364	.0975	.0619	.0614	.1222	.0000	.1901	.3346	.6099
												.0000
10.000							.0540					.0894
14.000												
20.000							.0639					.0000
22.000												
24.500							.1084					.0450
35.000												
39.000							.0000					
42.500									.0000			
48.000							.0000					
60.000												.0000
119.000							.1351					.1046
180.000		.6690			.3900				.1068			

x/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

FBI	.0662	.0793	.1155	.0984	.0694	.0750	.0913
.000				.0000			
10.000				.1062			
20.000				.0000			
25.500				.0312			
40.000				.0000			
55.500							

[illegible][illegible]

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PMI															
12.000								.0421							
21.500												.0367			
23.000								.0401							
24.000				.1280											
31.500				.0000											
34.000								.0000							
35.000				.0000											
40.000				.0000				.0000							
45.000				.0000				.0000							
51.000				.0000											
57.500								.0000							
59.500															
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.500				.0000											
105.000															
106.000								.0314				.0569			
135.000								.0000				.0000			
140.000				.0000											
141.400															
151.000	.0000		.0000												
180.000															

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PMI															
.000				.1045		.0000		.0059							
21.500	.0286	.0298	.0300	.0287	.0278	.0287	.0275	.0263	.0225	.0246	.0399	.0401	.0248	.0240	
63.000	.0285			.0168				.0161					.0185		
64.000	.0000							.0000							
65.000					.0000				.0000				.0000		
105.000	.0000				.0000			.0000					.0000		
111.000															
112.000					.0000										
113.000					.0000										
116.000					.0000										
135.000	.0000				.0000			.0000			.0000				
149.000											.0000				
180.000	.0000			.0212				.0000							

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0150	1.0140	1.0250	1.0380	1.0500
PMI												



(8TKB03)

AEDC VA352 CH4B 01+T1D ORB. FUSELAGE

$$\text{MACH} (1) = 0.000 \quad \text{ALPHA} (2) = -5.000$$

SECTION (1) CRBITER FUSELAGE

[illegible]

DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(8TK803)

AEDC VA352 CH48 Q1+T10 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = -5.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000					.0000				.0000		.0000				
135.000	.0000				.0000				.0000		.0000				
149.000					.0307				.0000		.0000				
180.000	.0000								.0000				.0000		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI												
.000	.0384	.0235	.0133	.0095	.0063	.0046	.0033	.0000	.0022	.0000	.0023	
21.500			.0156									.0046
39.000						.0000						
52.500			.0000			.0000						
55.000			.0000			.0000						
65.000			.0000			.0000						
68.000			.0000			.0000						
100.000			.0000			.0000						
108.000			.0000			.0000						
112.000						.0000						
113.000						.0000						

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 Q1 = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.0000	.4577	.2846	.1216	.0889	.0744	.0822	.0698	.0000				.0597	.1341	.3818
10.000															.0000
14.000															
20.000															.0711
22.000															.0000
24.500															.0390
35.000															
39.000															
42.500															
48.000															
60.000															.0000
115.000															.0907
180.000			.4171		.2291						.1050			.1810	.1820

MACH (1) = 0.000 ALPHA (3) = .000

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .1200 .1250 .1300 .1400 .1500 .1580 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

PHI

.000 .0306 .0261 .0274 .0271 .0247
 10.000 .0000
 20.000 .0619
 25.500 .0000
 40.000 .0225
 45.500 .0000

.0000

.0000

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.0000

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.0000

.0000

.3947

.0000

X/L

.1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

.000 .0413 .0482 .0592 .0585 .0418 .0261 .0244 .0164 .0201 .0236 .0249 .0254 .0237

.0237

.0644

.0361

.0376

.0132

.0020

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X/L

.5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500



STABULATED DATA LISTING FOR CH4B (AEDC VA352)

WEDC VA352 CH4B 01+T10 CRB. FUSELAGE

ALPHA (1) = 0.000 ALPHA (3) = .000

ALPHA (3) =

0.003

WACH, 1988

DEPENDENT VARIABLE HI/HQ

SECTION (1) CRBITER FUSELAGE

X/L
.5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .8000

PM1	.0250	.0277	.0266	.0277	.0280	.0281	.0252	.0246	.0257	.0338	.0337	.0319	.0297	.0316
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63,000 .0000

65.000

05.000 0000,0000

[illegible]

מחנה	טנטי.
39 מחנה	.טנטי.
16,000	

[illegible]

y/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500
-----	-------	-------	-------	-------	-------	-------	--------	--------	--------	--------	--------	--------

21.500	.0109
--------	-------

52.500 .0000

65,000 .0000

55.000 .0000

12.0000
12.0000

0760 0750 0000 0000 0000 0000 0000 0000 0000 0000

10.000	.0000	.4498	.2863	.2042	.1447	.1024	.0703	.0491	.0300
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6001'

24,500
24,500

363

(BTKB03)

AEDC VA352 CH4B 01-710 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (4) = 5.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI								.0000							
42.500								.0000							
48.000								.0000							
60.000								.0000							
119.000			.3310	.1730	.1071			.0722							.0000
180.000															.0674

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI														
.000	.0314	.0236	.0231	.0220	.0234									
10.000				.0000										
20.000				.0118										
25.500				.0000										
40.000				.0475										
45.500				.0000										
131.200								.0000						
145.400														.0000
146.200								.0000						.0000
156.000														.0000
159.200														.0000
170.700									.0000					.0000
171.900														
173.400														
180.000	.0349				.0396	.1794				.3063		.3204		

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
.000	.0360			.0413	.0304	.0323	.0258	.0202	.0215	.0171	.0184	.0175	.0173	.0158	.0152
11.500				.0400											
12.000															
21.500															
23.000															
24.000															
31.500				.0194											
34.000				.0000											
35.000				.0000											
40.000				.0000											
45.000				.0000											
51.000				.0000											
57.500															
59.500															
61.000															
65.000															
70.000															

.0073



PARAMETRIC DATA

SREF =	.8236 SQ.FT.	XARF =	.0000 IN.
LREF =	22.5803 IN.	YARF =	.0000 IN.
BARF =	16.3919 IN.	ZARF =	.0000 IN.
SCALE =	.5175 SCALE		

MACH (1) =	0.000	BETA (1) =	-2.000	TI	=	93.550	31	=	.681	HREF	=	.020
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SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

[illegible][illegible]

FBI					
.0000	.0263	.0266	.0331	.0304	
10.000				.0000	
20.000				.0764	
25.500				.0000	
40.000				.0189	
45.500				.0000	
					.0271
				.0199	
				.0236	

143.400		.0000
146.200		.0000
156.000		.0000
159.200		.0000
170.700		.0000
171.900		.0000
173.400		.0000
189.000		.0000

[illegible]

DATE 23 JAN 75
 TABULATED DATA LISTING FOR OH4B (AEDC VA352)
 AEDC VA352 OH4B 01+110 ORB. FUSELAGE
 (8TR804)

MACH (1) = 0.000 BETA (1) = -2.000

SECTION (1) ORBITER FUSELAGE
 DEPENDENT VARIABLE HI/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

12.000								.0477				.0262			
21.500								.0211							
23.000															
24.000				.0281											
31.500				.0000											
34.000				.0000											
35.000				.0000											
40.000				.0000											
45.000				.0000											
51.000				.0000											
57.500												.0203			
59.500															
61.000															
65.000															
70.000				.0000											
96.500												.0246			
105.000												.0000			
106.000								.0248							
135.000				.0000				.0000							
140.000															
141.400															
151.000			.0000												
180.000				.0828		.0000		.0059				.0051			

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	.0249	.0246	.0237	.0256	.0220	.0209	.0183	.0143	.0082	.0076	.0086	.0111	.0323	.0693	
21.500	.0242				.0190				.0142				.0459		
63.000	.0000														
64.000									.0000				.0000		
65.000					.0000								.0000		
65.500	.0000				.0000								.0000		.0000
105.000					.0000								.0000		
111.000															
112.000					.0000										
113.000					.0000										
116.000															
135.000	.0000				.0000				.0000						
149.000					.0000										
180.000	.0000				.0029				.0000				.0000		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
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PHI:

MACH (1) = 8.000 BETA (1) = -2.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
FHI												
.000	.0864	.0327	.0216	.0136	.0081	.0039	.0000	.0000	.0030	.0000	.0033	
21.500			.0111									
39.000						.0076					.0054	
52.500					.0000							
55.000			.0000									
65.000			.0000		.0000							
68.000												
100.000			.0000		.0000							
108.000			.0000		.0000							
112.000						.0000						
113.000							.0000					

MACH (1) = 8.000 BETA (2) = .000 TI = 93.550 QI = .681 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
FHI															
.000	.0000	.4577	.2846	.1216	.0889	.0744	.0822	.0698	.0000	.0000	.0597	.1341	.3818	.0000	.0000
10.000							.0787						.0711	.0000	.0000
14.000							.0734						.0000	.0000	.0000
20.000							.0886						.0000	.0000	.0000
24.500							.0000						.0000	.0000	.0000
35.000							.0000						.0000	.0000	.0000
39.000							.0000						.0000	.0000	.0000
42.500							.0000						.0000	.0000	.0000
48.000							.0000						.0000	.0000	.0000
60.000							.0000						.0000	.0000	.0000
119.000					.2291		.1496				.1050		.0000	.0000	.0000
180.000			.4171										.0000	.0000	.0000
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FHI															
.000	.0306	.0261	.0274	.0271	.0000	.0247					.0219	.0271			
10.000					.0000										
20.000					.0619										
25.500					.0000										
40.000					.0225										
45.500					.0000										
131.200									.0000						
145.400									.0000						
146.200									.0000					.0000	



TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(8TK804)

AEDC VA352 CH48 OI+TID ORB. FUSELAGE

MACH (1) = 0.000 BETA (2) = .000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1700 .1780 .1800 .1810 .1820

PHI
156.000
159.200
170.700
171.900
173.400
180.000
PHI
11.500
12.000
21.500
23.000
24.000
31.500
34.000
35.000
40.000
45.000
51.000
57.500
59.500
61.000
65.000
70.000
96.500
105.000
106.000
135.000
140.000
141.400
151.000
180.000
PHI
.000
21.500
63.000
64.000
65.000
65.500

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI
.000
11.500
12.000
21.500
23.000
24.000
31.500
34.000
35.000
40.000
45.000
51.000
57.500
59.500
61.000
65.000
70.000
96.500
105.000
106.000
135.000
140.000
141.400
151.000
180.000
PHI
.000
21.500
63.000
64.000
65.000
65.500

X/L .5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

PHI
.000
21.500
63.000
64.000
65.000
65.500

X/L .8750 .9000 .9250 .9500 .9750 .9900 .9950 .9990 .9995 .9999 .9999 .9999 .9999 .9999 .9999

PHI
.000
21.500
63.000
64.000
65.000
65.500

(81X804)

AEDC VA352 CH4B 01+110 CRB. FUSELAGE

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
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FHI

105.000	.0000				.0000				.0000				.0000		
111.000					.0000										.0000
112.000					.0000										
113.000					.0000										
116.000									.0000						
135.000	.0000				.0000			.0000			.0000				
149.000									.0000						
180.000	.0000				.0040				.0000				.0000		

X/L

FHI

.000	.0317	.0175	.0110	.0079	.0050	.0040	.0022	.0000		.0031	.0000	.0043			
21.500			.0109												
39.000															
52.500						.0000	.0045							.0040	
55.000															
65.000						.0000									
68.000															
100.000															
108.000															
112.000						.0000	.0000								
113.000							.0000		.0000						



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(BTB805) (29 APR 74)

AEDC VA352 OH4B 01+T10 ORB. FUSELAGE

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN. BETA = .000 RN/L = 3.720
 LREF = 22.9803 IN. YMRP = .0000 IN. B.FLAP = .000 ELEVON = .000
 BREF = 16.3919 IN. ZMRP = .0000 IN. HAM/HT = .850
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

PHI
 .000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 10.000
 14.000
 20.000
 22.000
 24.500
 35.000
 39.000
 42.500
 48.000
 60.000
 119.000
 180.000

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

PHI
 .000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 10.000
 20.000
 25.500
 40.000
 45.500
 131.200
 145.400
 146.200
 156.000
 159.200
 170.700
 171.900
 173.400
 180.000

.5974
 .4036
 .4603
 .5645
 .8580
 .9421
 1.0908
 1.0056

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI
 .000
 11.500

(8TK805)

AEDC VA352 CH48 01+T10 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) CABIN FUSELAGE DEFENDANT VARIABLE MI/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

.7196

.4577

.2720

X/L

FHI

.0000

21.500

63.000

64.000

65.000

65.500

105.000

111.000

112.000

113.000

116.000

135.000

149.000

180.000

X/L

FHI:



DATE 23 JAN 75

PAGE 61

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(BTKB05)

AEDC VA352 OH4B 01+110 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000					.0000							
52.500						.0000						
55.000			.0000									
65.000			.0000			.0000						
68.000							.0000					
100.000			.0000			.0000						
108.000			.0000				.0000					
112.000								.0000				
113.000									.0000			

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 98.067 Q1 = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000															
14.000															
20.000															
22.000															
24.500															
35.000															
39.000															
42.500												.0000			
48.000															
60.000											.0000				
119.000			.0000		.0000						.0000				.0000
180.000															.0000

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000															
20.000															
25.500															
40.000															
45.500															
131.200															
145.400															
146.200															

.6376

.5623

.6047

(8TK805)

AEDC VA322 CH4B 01+110 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = -5.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1750 .1780 .1800 .1810 .1820

PHI

156.000

159.800

170.700

171.900

173.400

180.000

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

.0000

.0000

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TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(8TK805)

AEDC VA352 CH4B 01+T10 ORB. FUSELAGE

DATE 23 JAN 75

MACH (1) = 8.000 ALPHA (2) = -5.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
FHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000					.0000				.0000		.0000				
135.000	.0000				.0000				.0000		.0000				
149.000					.0000				.0000						
180.000	.0000				.0000				.0000						

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

FHI

.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000															
52.500															
55.000	.0000				.0000										
65.000	.0000				.0000										
68.000					.0000										
100.000	.0000				.0000										
108.000	.0000				.0000										
112.000					.0000										
113.000					.0000				.0000						

MACH (1) = 8.000 ALPHA (3) = .000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
FHI															
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000															
14.000									.0000						
20.000									.0000						
22.000									.0000						
24.500									.0000						
35.000									.0000						
39.000									.0000						
42.500									.0000						
48.000									.0000						
60.000									.0000						
119.000									.0000						
180.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1680	.1700	.1780	.1800	.1810	.1820

MACH (1) = 8.000 ALPHA (3) = .000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000															
20.000															
25.500															
40.000															
45.500															
131.200															
145.400															
146.200															
156.000															
159.200															
170.700															
171.900															
173.400															
180.000															

FHI

10.000

20.000

25.500

40.000

45.500

131.200

145.400

146.200

156.000

159.200

170.700

171.900

173.400

180.000

X/L

FHI

11.500

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

X/L



REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .850

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

21/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0607	.0675		.3892	.6850	.3887	.1484		.3558	.1762	.0492
.002					.6685			.2272				
.003					.3594			.1547				
.004					.2254			.0975				
.005					.1761			.0704				
.006					.1222			.0474				
.007					.0860			.0410				
.025	.1041			.2006	.2164		.3086					
.050				.0440		.0605	.0835	.0852		.1765	.1864	
.100	.0416											
.153					.0267							
.177				.0191		.0329						
.200	.0390				.0198	.0239		.0513	.0489	.0838		
.299				.0234			.0443					
.300						.0293						
.302												
.303												
.428	.0371				.0267							
.444							.0448	.0472		.0597		
.487				.0733								
.500												
.559												
.590	.0285				.0503	.0438						
.600				.0565	.0479	.0298	.0186		.0255			
.700												
.736	.0000									.0240		
.800					.0174	.0148						
.850				.0256	.0252	.0153						
.900	.0691			.0256	.0260	.0304	.0117					.0167



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

AEDC VA352 OH4B 01+110 ORB. BOTTOM SURFACE WING (BTKL01)

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) BOTTOM SURF. WING DEFENDENT VARIABLE HI/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0336	.0434		.3278	.5664	.4193	.1529		.1651	.1241	.0463
.002						.5445		.2587				
.003						.3113		.1806				
.004						.1988		.1198				
.005						.1493		.0856				
.006						.1078		.0646				
.007						.0775		.0367				
.025	.0973			.1489	.1893		.3284					
.050			.0354		.0555	.0813	.1096		.1350	.1307		
.100												
.153	.0240											
.177					.0264							
.200				.0192		.0327						
.299	.0353				.0203	.0191		.0575	.0615	.0736		
.300												
.302				.0280			.0402					
.303												
.428						.0215						
.444	.0318											
.487				.0098			.0327	.0515		.0631		
.500												
.559				.0558								
.590	.0238				.0393	.0176			.0239			
.600					.0387	.0216	.0136			.0358		
.700				.0058								
.736	.0000					.0233	.0121					
.800						.0291	.0128					
.850						.0228	.0102			.0230		
.900	.0533			.0206	.0260							

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) BOTTOM SURF. WING DEFENDENT VARIABLE HI/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0246	.0303	.2864	.4604	.4022	.1232		.1744	.1422	.0374	
.002					.4743		.2045					
.003					.2904		.1551					
.004					.1898		.1023					
.005					.1496		.0798					
.006					.1072		.0652					
.007					.0801		.0508					
.025	.0392			.1419	.1745		.3326					

(8TKL01)

AEDC VA352 CH4B 01+119 CRB. BOTTOM SURFACE WING

MACH (1) = 8.000 ALPHA (3) = .000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C	.050											
	.100			.0419		.0270	.0890	.1058		.1468		
	.153	.0201								.1428		
	.177			.0242	.0255	.0323						
	.200											
	.299	.0272										
	.300			.0202	.0189		.0510	.0350	.0656			
	.302			.0177								
	.303					.0460						
	.428											
	.444	.0277				.0221						
	.487				.0152		.0386	.0444		.0436		
	.500			.0590								
	.559											
	.590	.0253										
	.600			.0316	.0170			.0313				
	.700			.0068	.0349	.0194	.0163		.0259			
	.736	.0000										
	.800				.0198	.0162						
	.850			.0274	.0174							
	.900	.0311		.0237	.0234	.0255	.0133		.0202			

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C	.001											
	.002	.0514	.0530	.2969	.4570	.4093	.1117		.1785	.1614	.0423	
	.003			.4989	.2024	.1600						
	.004			.3476	.1600	.1157						
	.005			.2307	.1157	.0891						
	.006			.1854	.0891	.0640						
	.007			.1355	.0640	.0578						
	.025	.0655		.1012	.3606							
	.050											
	.100			.0587	.0723	.1142	.1089		.1566	.1529		
	.153	.0285										
	.177			.0393								
	.200			.0437								
	.299	.0095										
	.300			.0337	.0244	.0509	.0595	.0821				
	.312			.0266								



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(BTKL01)

DATE 23 JAN 75

AEDC VA352 CH4B 01+110 CRB. BOTTOM SURFACE WING

MACH (1) = 8.000 ALPHA (4) = 5.000

SECTION (1) BOTTOM SURF. WING DEFENDENT VARIABLE HI/HO

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.303
.428
.444
.467
.500
.559
.590
.600
.700
.736
.800
.850
.900

.0702
.0307
.0190
.0578
.0543
.0513
.0374
.0247
.0244
.0230
.0293
.0072
.0454
.0175
.0230
.0113
.0246
.0198
.0236
.0154
.0191
.0406
.0435
.0230

PARAMETRIC DATA

ALPHA =	.000	RN/L =	3.720
B. FLAP =	.000	ELEVON =	.000
HAW/HT =	.850		

MACH (1) =	8.000	BETA (1) =	-2.000	TI =	97.350	QI =	3.942	HREF =	.049
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SECTION (1) BOTTOM SURF. WING

[illegible]

31X

.001	.0419	.0563	.3414	.6568	.5609	.1905	.2976
.002				.9045		.3328	
.003				.4415		.1859	
.004				.2760		.1057	
.005				.2174		.0890	
.006				.1466		.0767	
.007				.1176		.0688	
.025	.0804		.1816	.2100	.3536		.3182
.050							.2505
.100			.0484	.0713	.1212	.1252	
.153	.0186						
.177			.0359				
.200			.0310	.0472			
.299	.0271						
.300				.0295		.0747	.1101
.302			.0243				
.303				.0365	.0805		
.428							
.444	.0372						
.487			.0254				
.500							
.559					.0767	.0712	.0778
.590	.0347						
.600			.0284	.0294			
.700			.0439	.0241	.0262	.0413	.0417
.736	.0000		.0129				
.800				.0136	.0290		
.850				.0185	.0240		
.900	.0765		.0395	.0180	.0177		.0280

DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

AEDC VA352 CH4B 01+110 ORB. BOTTOM SURFACE WING (8TKL02)

MACH (1) = 0.000 BETA (2) = .000 T1 = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

27/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001	.0246	.0303		.2864	.4604	.4022	.1232		.1744	.1422	.0374	
.002				.4743	.2045							
.003				.2904	.1551							
.004				.1898	.1023							
.005				.1496	.0798							
.006				.1072	.0652							
.007				.0861	.0508							
.025	.0392		.1419	.1745	.3326							
.050			.0419	.0570	.0890	.1058				.1468	.1428	
.100												
.153	.0201			.0255								
.177												
.200			.0242		.0323							
.299	.0272			.0202	.0189	.0510	.0550	.0656				
.300												
.302			.0177			.0460						
.303					.0221							
.428												
.444	.0277											
.487				.0152	.0386	.0444			.0436			
.500												
.559			.0590									
.590	.0253			.0316	.0170				.0313			
.600			.0068	.0349	.0194	.0163				.0259		
.700												
.736	.0000				.0198	.0162						
.800					.0274	.0174						
.850												
.900	.0511		.0237	.0234	.0255	.0133				.0202		

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5603 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 93.425 QI = .682 HREF = .020

PARAMETRIC DATA

BETA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .850

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HQ

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0498	.0653	.3848	.6769	.4644	.1528	.2115	.1241	.0356
.002				.6310		.2249			
.003				.3395		.1542			
.004				.2120		.1096			
.005				.1649		.0804			
.006				.1135		.0610			
.007				.0856		.0523			
.025	.1240	.1803	.2157		.3525		.1667		
.050		.0464		.0594	.0815	.0981	.1423		
.100	.0179								
.153									
.177			.0283						
.200	.0207			.0368					
.299	.0150								
.300									
.302		.0126	.0167	.0198	.0482	.0539	.0583		
.303									
.428	.0123			.0250					
.444									
.487			.0076						
.500					.0317	.0401	.0399		
.559	.0179								
.590	.0081								
.600			.0089	.0140					
.700	.0044	.0112	.0081	.0119		.0173	.0222		
.736	.0000								
.800			.0039	.0113					
.850			.0052	.0126					
.900	.0259	.0159	.0095	.0058	.0096			.0168	



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

AEDC VA352 OH4B 01+T10 CRB. BOTTOM SURFACE WING (8TKL03)

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 93.425 Q1 = .682 HREF = .020

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0324	.0430		.3211	.5469	.4056	.1606		.1826	.1352	.0386	
.002				.5371	.2560							
.003				.2971	.1755							
.004				.2009	.1151							
.005				.1535	.0887							
.006				.1080	.0635							
.007				.0815	.0363							
.025		.1342	.1906		.3277							
.050		.0397		.0551	.0825	.1097			.1632			
.100									.1470			
.153	.0143											
.177				.0289								
.200		.0173			.0327							
.299	.0150											
.300			.0206	.0194		.0558	.0658	.0776				
.302		.0109										
.303					.0420							
.428	.0139			.0254								
.487			.0370			.0317	.0464		.0479			
.500												
.559		.0125										
.590	.0108											
.603			.0096	.0142				.0233				
.700		.0032	.0118	.0077	.0129				.0269			
.736	.0000											
.800				.0040	.0116							
.850				.0056	.0127							
.900	.0276	.0161	.0105	.0047	.0102				.0184			

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 Q1 = .682 HREF = .020

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0242	.0322		.2788	.4667	.4006	.1190		.1843	.1456	.0379	
.002				.4708	.2006							
.003				.3095	.1460							
.004				.2023	.1224							
.005				.1591	.0829							
.006				.1102	.0730							
.007				.0859	.0641							
.025		.1352	.1762		.3414							

AEDC VA332 CH4B 01+T10 ORB. BOTTOM SURFACE WING (BTKL03)

MACH (1) = 8.000 ALPHA (3) = .000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050										.1528		
.100				.0481		.0618	.0910	.0994		.1487		
.153	.0086											
.177					.0305							
.200				.0270		.0378						
.299	.0074											
.300					.0251	.0201	.0541	.0617	.0663			
.302				.0179								
.303						.0465						
.428						.0257						
.444	.0148											
.487					.0181							
.500						.0389	.0317		.0461			
.559				.0109								
.590	.0139				.0129	.0190		.0256				
.600				.0033	.0090	.0137	.0159		.0257			
.700												
.736	.0000				.0070	.0153						
.800					.0089	.0169						
.850					.0078	.0143						
.900	.0211			.0153	.0073				.0195			

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0478	.0586		.3181	.4538	.4152	.1156		.1817	.1619	.0347
.002					.5090	.5090	.1981					
.003					.3649	.1597						
.004					.2496	.1249						
.005					.1980	.0951						
.006					.1498	.0759						
.007					.1118	.0668						
.025	.0519			.1776	.2150		.3784					
.050				.0658		.0814	.1082	.1095		.1598	.1581	
.100												
.153	.0274											
.177				.0447								
.200				.0374		.0475						
.299	.0104											
.300				.0374	.0275		.0549	.0647	.0855			
.302				.0308								



TABULATED DATA LISTING FOR CH48 (AEDC VA352)

AEDC VA352 CH48 O1+T10 ORB. BOTTOM SURFACE WING (BTKL03)

MACH (1) = 9.000 ALPHA (4) = 5.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.303						.0348	.0601					
.428												
.444	.0082				.0299							
.487							.0525	.0563		.0540		
.500												
.559				.0139								
.590	.0073								.0219			
.600				.0226	.0250		.0218			.0331		
.700				.0082	.0159	.0191						
.736	.0000											
.800					.0107	.0223						
.850					.0154	.0239						
.900	.0224			.0155	.0080	.0124	.0222			.0285		

REFERENCE DATA

SRF =	.0230 90.FT.	XRRP =	.0000 IN.
LRP =	22.5003 IN.	YRRP =	.0000 IN.
BRP =	16.3919 IN.	ZRRP =	.0000 IN.
SCALE =	.0175 SCALE		

$$\text{MACH} (1) = 8.000 \quad \text{BETA} (1) =$$

SECTION (1) BOTTOM SURF. WING

2Y/8	.2500	.3010	.3480	.4000
------	-------	-------	-------	-------

DEPENDENT VARIABLE HI/HQ

3/3

.001	.0406	.0514		.3428	.6699	.5669	.1783	.2468
.002					.9633		.3288	
.003					.4190		.1713	
.004					.2605		.1547	
.005					.2015		.0882	
.006					.1445		.0742	
.007					.1136		.0655	
.025	.0613		.1777	.2118		.3435		.2122
.050			.0530		.0732	.1147	.1234	.2085
.100								
.153	.0182							
.177			.0353					
.200			.0327		.0445			
.299	.0064							
.300								
.302			.0226	.0280	.0257	.0662	.0649	.0842
.303					.0338			
.428								
.444	.0044							
.487								
.500			.0239			.0615	.0667	.0561
.559		.0134						
.590	.0066							
.600								
.700			.0191	.0242				
.736		.0576	.0134	.0187	.0219		.0277	.0354
.800	.0000							
.803					.0089	.0205		
.850					.0140	.0213		
.900	.0380	.0143	.0067	.0106	.0162			.0246

PARAMETRIC DATA

ALPHA =	.000	RN/L =	.680
B.FLAP =	.000	ELEVON =	.000
HAW/HT =	.850		

$$.681 \times 189 = 128.709$$


TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

AEDC VA352 OH4B 01+110 CRB. BOTTOM SURFACE WING (8TKL04)

MACH (1) = 8.000 BETA (2) = .000 T1 = 93.550 Q1 = .681 HREF = .020

SECTION (1) BOTTOM SURF. WING DEFICENT VARIABLE H1/H0

21/8	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0242	.0322		.2788	.4667	.4906	.1190		.1843	.1456	.0379
.002						.4708		.2076				
.003						.3095		.1460				
.004						.2023		.1224				
.005						.1591		.0829				
.006						.1102		.0730				
.007						.0859		.0641				
.025	.0358			.1352	.1762		.3414					
.050				.0481		.0618	.0910	.0994		.1528	.1487	
.100												
.153	.0086											
.177					.0305							
.200				.0270		.0378						
.299	.0074											
.300					.0251	.0201		.0541	.0617	.0663		
.302				.0170			.0465					
.303												
.428						.0257						
.444	.0148											
.487					.0181						.0461	
.500				.0109			.0389	.0517				
.559												
.590	.0139											
.600					.0129	.0190			.0256			
.700				.0033	.0090	.0137	.0159			.0257		
.736	.0000											
.800						.0070	.0153					
.850						.0089	.0169					
.900	.0211			.0153	.0073	.0078	.0143				.0195	

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 6.000 ALPHA (1) = -10.000 T1 = 98.067 Z1 = 4.007 HREF = .049

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAF = .000 ELEVON = .000
 HAW/HT = .850

SECTION (1) BOTTOM SURF. WING DEFENDENT VARIABLE HI/HO

ZY/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.002	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.003	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.004	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.005	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.006	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.007	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.025	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.050	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.100	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.153	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.177	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.200	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.299	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.300	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.302	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.303	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.428	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.444	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.487	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.559	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.590	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.600	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.700	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.736	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.800	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.850	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.900	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000



DATE 23 JAN 73

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

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AEDC VA352 CH4B 01-T10 CRB. UPPER SURFACE WING (BTU01) (29 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B-FLAP = .000 ELEVON = .000
 HAW/HT = .855

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZY/B .4000 .6000 .8000

X/C

.050 .0000 .2802 .0000
 .200 .0000 .1100 .0000
 .600 .0000 .0000 .0000
 .800 .0140 .0000
 .900 .0000 .0000
 .950 .0000 .0171 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZY/B .4000 .6000 .8000

X/C

.050 .0000 .2373 .0000
 .200 .0000 .0574 .0000
 .600 .0000 .0000 .0000
 .800 .0062 .0000
 .900 .0000 .0000
 .950 .0000 .0083 .0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZY/B .4000 .6000 .8000

X/C

.050 .0000 .1696 .0000
 .200 .0000 .0371 .0000
 .600 .0000 .0000 .0000
 .800 .0044 .0000
 .900 .0000 .0000
 .950 .0000 .0047 .0000

AEDC VA352 CH4B 01+T10 CRB. UPPER SURFACE WING (BTKU01)

MACH (1) = 8.000 ALPHA (4) = 5.000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/H0

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000

X/C

.050 .0000 .1448 .0000
.200 .0000 .0286 .0000
.600 .0000 .0000 .0000
.800 .0012 .0000 .0000
.900 .0000 .0000 .0000
.950 .0000 .0025 .0000



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(BTKUD2) (29 APR 74)

AEDC VA352 OH4B Q1+T10 CRB. UPPER SURFACE WING

PARAMETRIC DATA

ALPHA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAN/HT = .850

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 TI = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HI/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0000 .1612 .0000
.200 .0000 .0341 .0000
.600 .0000 .0000 .0000
.800 .0000 .0000 .0000
.900 .0000 .0000 .0000
.950 .0000 .0025 .0000

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HI/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0000 .1696 .0000
.200 .0000 .0371 .0000
.600 .0000 .0000 .0000
.800 .0000 .0044 .0000
.900 .0000 .0000 .0000
.950 .0000 .0047 .0000

AEBC VA352 CH4B 01+T10 CRB, UPPER SURFACE WING (BTKU03) (29 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BRFP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HI/HO

ZY/B .4000 .6000 .8000

X/C

.050 .0000 .2256 .0000
 .200 .0000 .0525 .0000
 .600 .0000 .0000 .0000
 .800 .0000 .0061 .0000
 .900 .0000 .0000 .0000
 .950 .0000 .0098 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HI/HO

ZY/B .4000 .6000 .8000

X/C

.050 .0000 .2430 .0000
 .200 .0000 .0589 .0000
 .600 .0000 .0000 .0000
 .800 .0000 .0063 .0000
 .900 .0000 .0000 .0000
 .950 .0000 .0061 .0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HI/HO

ZY/B .4000 .6000 .8000

X/C

.050 .0000 .1814 .0000
 .200 .0000 .0395 .0000
 .600 .0000 .0000 .0000
 .800 .0000 .0052 .0000
 .900 .0000 .0000 .0000
 .950 .0000 .0053 .0000

PARAMETRIC DATA

BETA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .850



TABULATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

AEDC VA352 CH48 01+110 CRB. UPPER SURFACE WING (BTU033)

MACH (1) = 0.000 ALPHA (4) = 5.000 T1 = 93.425 Q1 = .682 HREF = .020

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE H1/H0

ZY/B .4000 .6000 .8000

X/C

.050	.0000	.1566	.0000
.200	.0000	.0307	.0000
.600	.0000	.0000	.0000
.800	.0037	.0000	.0000
.900	.0000	.0000	.0000
.950	.0000	.0036	.0000

REFERENCE DATA

SREF = .0238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 0.000 BETA (1) = -2.000 T1 = 93.550 Q1 = .681 HREF = .020

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000

X/C

.050 .0000 .1693 .0000
 .200 .0000 .0383 .0000
 .600 .0000 .0000 .0000
 .800 .0000 .0037 .0000
 .900 .0000 .0000 .0000
 .950 .0000 .0034 .0000

MACH (1) = 0.000 BETA (2) = .000 T1 = 93.550 Q1 = .681 HREF = .020

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000

X/C

.050 .0000 .1814 .0000
 .200 .0000 .0395 .0000
 .600 .0000 .0000 .0000
 .800 .0000 .0052 .0000
 .900 .0000 .0000 .0000
 .950 .0000 .0053 .0000

PARAMETRIC DATA

ALPHA = .000 RN/L = .680
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .850



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(BTXV01) (29 APR 74)

AEDC VA352 OH4B 01+110 CRB. LEFT VERTICAL TAIL

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C
 .000 .0000 .7147 .6826 .6643
 .010 .0000 .0000 .0000 .0000
 .100 .0000 .0000 .1740 .1671
 .300 .0000 .0000 .0780 .0832
 .500 .0000 .0000 .0000 .0000
 .700 .0000 .0000 .0000 .0000
 .900 .0000 .0000 .0000 .0185

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C
 .000 .0000 .4469 .8174 .7538
 .010 .0000 .0000 .0000 .0000
 .100 .0000 .0000 .1179 .1686
 .300 .0000 .0000 .0346 .0744
 .500 .0000 .0000 .0000 .0535
 .700 .0000 .0000 .0000 .0000
 .900 .0000 .0000 .0123

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C
 .000 .0000 .3541 .5011 .5290
 .010 .0000 .0000 .0000 .0000
 .100 .0000 .0000 .0873 .1102
 .300 .0000 .0000 .0435 .0526
 .500 .0000 .0000 .0000 .0000
 .700 .0000 .0000 .0000 .0000
 .900 .0000 .0000 .0000 .0126

AEDC VA332 CH48 01+T10 ORB. LEFT VERTICAL TAIL (BTKVD1)
 MACH (1) = 8.000 ALPHA (4) = 5.000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEFENDENT VARIABLE H1/H0

Z/8V .1590 .2990 .3320 .7650 .9050

X/C

.000	.0000	.3786	.5474	.4210
.010				.5000
.100	.0000	.0000	.0814	.0994
.300	.0000	.0000	.0368	.0480
.500	.0000	.0000	.0000	.0000
.700	.0000	.0000	.0000	.0319
.900	.0000	.0000	.0000	.0000
				.0102



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

AEDC VA352 CH4B 01+T10 ORB. LEFT VERTICAL TAIL (BTKV02) (29 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE
 ALPHA = .000 RN/L = 3.720
 B.FLAF = .000 ELEVON = .000
 HAW/HT = .850

MACH (1) = 8.000 BETA (1) = -2.000 T1 = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C
 .000 .0000 .4601 .8074 .5947
 .010 .0000 .0000 .0000 .0000
 .100 .0000 .0000 .0992 .1441
 .300 .0000 .0000 .0373 .0578
 .500 .0000 .0000 .0000 .0437
 .700 .0000 .0000 .0000 .0000
 .900 .0000 .0000 .0162 .0000

MACH (1) = 8.000 BETA (2) = .000 T1 = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C
 .000 .0000 .3541 .5011 .5290
 .010 .0000 .0000 .0000 .0000
 .100 .0000 .0000 .0873 .1102
 .300 .0000 .0000 .0435 .0526
 .500 .0000 .0000 .0000 .0362
 .700 .0000 .0000 .0000 .0000
 .900 .0000 .0000 .0126 .0000

PARAMETRIC DATA

REFERENCE DATA

\$REF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BRP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0000 .6979 1.0908 .7289
 .010 .0000 .0000 .0000
 .100 .0000 .0000 .1615 .1194
 .300 .0000 .0000 .0754 .1101
 .500 .0000 .0000 .0000 .0282
 .700 .0000 .0000 .0000 .0000
 .900 .0000 .0000 .0000 .0215

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0000 .4527 .8688 .8163
 .010 .0000 .0000 .0000
 .100 .0000 .0000 .1159 .1573
 .300 .0000 .0000 .0528 .0725
 .500 .0000 .0000 .0000 .0471
 .700 .0000 .0000 .0000 .0000
 .900 .0000 .0000 .0000 .0156

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0000 .3762 .5544 .5852
 .010 .0000 .0000 .0000
 .100 .0000 .0000 .0923 .1111
 .300 .0000 .0000 .0465 .0575
 .500 .0000 .0000 .0000 .0372
 .700 .0000 .0000 .0000 .0000
 .900 .0000 .0000 .0000 .0136

PARAMETRIC DATA

BETA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .850



REFERENCE DATA

3REF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 T1 = 93.550 Q1 = .681 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0000 .5103 .9435 .6478
 .010 .0000 .0000 .0000 .0000
 .100 .0000 .0000 .1068 .1412
 .300 .0000 .0000 .0600 .0597
 .500 .0000 .0000 .0000 .0000 .0444
 .700 .0000 .0000 .0000 .0000
 .900 .0000 .0000 .0000 .0169

MACH (1) = 8.000 BETA (2) = .000 T1 = 93.550 Q1 = .681 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0000 .3762 .5544 .5852
 .010 .0000 .0000 .0000 .0000
 .100 .0000 .0000 .0923 .1111
 .300 .0000 .0000 .0465 .0575
 .500 .0000 .0000 .0000 .0000 .0372
 .700 .0000 .0000 .0000 .0000
 .900 .0000 .0000 .0000 .0136

PARAMETRIC DATA

ALPHA = .000 RN/L = .680
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .850



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(BTXW01) (29 APR 74)

AEDC VA352 OH4B O1+T10 CRB. OMS FOD

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B, FLAP = .000 ELEVON = .000
HAM/HT = .850

REFERENCE DATA

SRF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 T1 = 97.600 Q1 = 3.935 HREF = .049

DEPENDENT VARIABLE HI/HO

SECTION (1) OMS FOD

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .3733 .2536 .1402 .0671 .0000 .0000 .0000
8.540 .0000
8.650 .0000
8.727 .0000
8.750 .0000 .0000 .0000
8.855 .0000
8.942 .0000
8.978 .0000
9.056 .0000
9.118 .0000
9.222 .0000
9.275 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 97.600 Q1 = 3.935 HREF = .049

DEPENDENT VARIABLE HI/HO

SECTION (1) OMS FOD

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .2189 .1108 .1154 .0902 .0000 .0000 .0000
8.540 .0000
8.650 .0000
8.727 .0000
8.750 .0000 .0000 .0000 .0000
8.855 .0000
8.942 .0000
8.978 .0000
9.056 .0000
9.118 .0000
9.222 .0000
9.275 .0000

(BTM01)

AEDC VA352 CH4B 014T110 CR8. CMS F00

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) CMS F00 DEPENDENT VARIABLE HI/H0

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0513 .2509 .1279 .0671 .0000 .0000 .0000
8.540 .0000
8.650 .0000
8.727 .0000
8.750
8.855 .0000 .0000 .0000
8.942 .0000
8.978 .0000
9.056 .0000
9.118 .0000
9.222 .0000
9.275 .0000

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) CMS F00 DEPENDENT VARIABLE HI/H0

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0452 .1679 .1079 .0558 .0000 .0000 .0000
8.540 .0000
8.650 .0000
8.727 .0000
8.750 .0000 .0000 .0000
8.855 .0000
8.942 .0000
8.978 .0000
9.056 .0000
9.118 .0000
9.222 .0000
9.275 .0000



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(8TKM02) (29 APR 74)

AEDC VA352 OH4B 01+T10 ORB. CMS FOD

PARAMETRIC DATA

ALPHA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .850

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 T1 = 97.350 Q1 = 3.942 HREF = .049

DEPENDENT VARIABLE HI/HO

SECTION (1) CMS FOD

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z
8.295 .2843 .3917 .2127 .1250 .0000 .0000 .0000
8.540 .0000
8.650 .0000
8.727 .0000
8.750 .0000
8.855 .0000
8.942 .0000
8.978 .0000
9.056 .0000
9.118 .0000
9.222 .0000
9.275 .0000

MACH (1) = 8.000 BETA (2) = .000 T1 = 97.350 Q1 = 3.942 HREF = .049

DEPENDENT VARIABLE HI/HO

SECTION (1) CMS FOD

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z
8.295 .0513 .2509 .1279 .0671 .0000 .0000 .0000
8.540 .0000
8.650 .0000
8.727 .0000
8.750 .0000
8.855 .0000
8.942 .0000
8.978 .0000
9.056 .0000
9.118 .0000
9.222 .0000
9.275 .0000

REFERENCE DATA

SREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 T1 = 93.425 Q1 = .682 HREF = .020

SECTION (1) CMS FCG

DEPENDENT VARIABLE HI/HQ

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .2967 .2129 .1098 .0612 .0000 .0000 .0000
 8.540 .0000
 8.650 .0000
 8.727 .0000
 8.750 .0000
 8.855 .0000
 8.942 .0000
 8.978 .0000
 9.056 .0000
 9.118 .0000
 9.222 .0000
 9.275 .0000

PARAMETRIC DATA

BETA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .850

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 93.425 Q1 = .682 HREF = .020

SECTION (1) CMS FCG

DEPENDENT VARIABLE HI/HQ

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0305 .0523 .0510 .0349 .0000 .0000 .0000
 8.540 .0000
 8.650 .0000
 8.727 .0000
 8.750 .0000
 8.855 .0000
 8.942 .0000
 8.978 .0000
 9.056 .0000
 9.118 .0000
 9.222 .0000
 9.275 .0000



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(BTKM03)

AEDC VA352 CH4B 01+110 ORB. CMS FOD

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 Q1 = .682 HREF = .020

SECTION (1) CMS FOD

DEPENDENT VARIABLE HI/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295	.0146	.0402	.0710	.0544	.0000	.0000	.0000
8.540	.0000						
8.650	.0000						
8.727	.0000				.0000	.0000	
8.750				.0000			
8.855							
8.942		.0000					
8.978				.0000			
9.056			.0000				
9.118			.0000				
9.222				.0000			
9.275				.0000			

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 93.425 Q1 = .682 HREF = .020

SECTION (1) CMS FOD

DEPENDENT VARIABLE HI/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295	.0053	.0156	.0322	.0338	.0000	.0000	.0000
8.540	.0000						
8.650	.0000						
8.727	.0000				.0000	.0000	
8.750							
8.855				.0000			
8.942		.0000					
8.978				.0000			
9.056			.0000				
9.118			.0000				
9.222				.0000			
9.275				.0000			

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 ZREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 TI = 93.550 QI = .681 HREF = .020

SECTION (1) CMS FOD DEPENDENT VARIABLE HI/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0317 .2202 .1528 .0848 .0000 .0300 .0000
 8.540 .0000
 8.630 .0000
 8.727 .0000
 8.750 .0000
 8.835 .0000
 8.942 .0000
 8.978 .0000
 9.056 .0000
 9.118 .0000
 9.222 .0000
 9.275 .0000

MACH (1) = 8.000 BETA (2) = .000 TI = 93.550 QI = .681 HREF = .020

SECTION (1) CMS FOD

DEPENDENT VARIABLE HI/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0146 .0402 .0710 .0544 .0000 .0000 .0000
 8.540 .0000
 8.630 .0000
 8.727 .0000
 8.750 .0000
 8.835 .0000
 8.942 .0000
 8.978 .0000
 9.056 .0000
 9.118 .0000
 9.222 .0000
 9.275 .0000

PARAMETRIC DATA

ALPHA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .650



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

AEDC VA352 OH4B 01+110 ORB. FUSELAGE Y=0.875 (BTKY01) (29 APR 74)

PARAMETRIC DATA

BETA = .003 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .850

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1662 .0346 .0519 .0442 .0472 .0326 .1186 .0135

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1591 .0310 .0486 .0408 .0316 .0301 .1117 .0131

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0203 .0372 .0332 .0312 .0284 .0184 .0778 .0149

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0217 .0349 .0283 .0254 .0242 .0196 .0816 .0109

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0306 .0405 .0413 .0350 .0360 .0304 .1436 .0088

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0203 .0372 .0332 .0312 .0284 .0184 .0778 .0149

PARAMETRIC DATA

ALPHA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .850



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH48 (AEDC VA352)

(BTKY03) (29 APR 74)
AEDC VA352 OH48 01+T10 ORB. FUSELAGE Y=0.875

REFERENCE DATA				PARAMETRIC DATA			
BREF =	.8238	50. FT.	XMRP =	.0000	IN.	BETA =	.000
LREF =	22.5803	IN.	YMRP =	.0000	IN.	B. FLAP =	.000
BREF =	16.3919	IN.	ZMRP =	.0000	IN.	HAH/HT =	.850
SCALE =	.0175	SCALE					
MACH (1) =	8.000	ALPHA (1) =	-10.000	TI =	93.425	QI =	.682
						HREF =	.020
SECTION (1) ORBITER FUSELAGE							
DEPENDENT VARIABLE HI/HO							
X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000
Y	.075	.1280	.0401	.0387	.0285	.0168	.0161
							.0185
							.0204
MACH (1) =	8.000	ALPHA (2) =	-5.000	TI =	93.425	QI =	.682
						HREF =	.020
SECTION (1) ORBITER FUSELAGE							
DEPENDENT VARIABLE HI/HO							
X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000
Y	.075	.0678	.0282	.0386	.0296	.0158	.0193
							.0164
							.0156
MACH (1) =	8.000	ALPHA (3) =	.000	TI =	93.425	QI =	.682
						HREF =	.020
SECTION (1) ORBITER FUSELAGE							
DEPENDENT VARIABLE HI/HO							
X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000
Y	.075	.0132	.0376	.0361	.0314	.0230	.0201
							.0236
							.0109
MACH (1) =	8.000	ALPHA (4) =	5.000	TI =	93.425	QI =	.682
						HREF =	.020
SECTION (1) ORBITER FUSELAGE							
DEPENDENT VARIABLE HI/HO							
X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000
Y	.075	.0194	.0243	.0243	.0239	.0169	.0171
							.0359
							.0564

DATE 23 JAN 75

TABULATED DATA LISTING FOR CASE 10000000

AEDC VA352 CH4B 01+T10 CR8. FUSELAGE Y=0.875

(8TKYD4) (29 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 T1 = 93.550 Q1 = .681 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0281 .0211 .0262 .0242 .0190 .0142 .0459 .0111

MACH (1) = 8.000 BETA (2) = .000 T1 = 93.550 Q1 = .681 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0132 .0376 .0361 .0314 .0230 .0201 .0236 .0109

PARAMETRIC DATA

ALPHA = .000 RN/L = .680
B.FLAP = .000 ELEVON = .000
HAW/HT = .850



DATE 83 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(BTXY05) (29 APR 74)
AEDC VA352 CH48 01+T10 ORB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 T1 = 98.067 Q1 = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
Y .875 .0000 .0000 .0000 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 98.067 Q1 = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
Y .875 .0000 .0000 .0000 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 T1 = 98.067 Q1 = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
Y .875 .0000 .0000 .0000 .0000 .0000 .0000 .0000

PARAMETRIC DATA
BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .850

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0613 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0678 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0330 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (4) = 5.000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0153 .0000 .0000 .0000 .0000

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .850



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 73

(BTKE02) (29 APR 74)

AEDC VA352 CH4B 01+T19 ORB. WING UPPER CREASE

REFERENCE DATA

SREF = .8239 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .850

MACH (1) = 8.000 BETA (1) = -2.000 TI = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

FHI
 62.000 .0416 .0000 .0000 .0000 .0000

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

FHI
 62.000 .0330 .0000 .0000 .0000 .0000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 T1 = 93.425 Q1 = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0358 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 93.425 Q1 = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0263 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 T1 = 93.425 Q1 = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0137 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (4) = 5.000 T1 = 93.425 Q1 = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0073 .0000 .0000 .0000 .0000

PARAMETRIC DATA

BETA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .850



TABULATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

(BTXCD4) (29 APR 74)
AEDC VA352 CH48 O1+T10 ORB. WING UPPER CREASE

REFERENCE DATA
SREF = .8238 50.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE
MACH (1) = 8.000 BETA (1) = -2.000 TI = 93.550 Q1 = .681 HREF = .020
ALPHA = .000 RN/L = .680
B.FLAP = .000 ELEVON = .000
HAM/HT = .850

PARAMETRIC DATA
SECTION (1) ORBITER FUSELAGE
DEPENDENT VARIABLE HI/HO
X/L .4000 .5000 .6000 .7000 .9000
PHI
62.000 .0203 .0000 .0000 .0000 .0000
MACH (1) = 8.000 BETA (2) = .000 TI = 93.550 Q1 = .681 HREF = .020

SECTION (1) ORBITER FUSELAGE
DEPENDENT VARIABLE HI/HO
X/L .4000 .5000 .6000 .7000 .9000
PHI
62.000 .0137 .0000 .0000 .0000 .0000

AEDC VA352 OH4B 01-T10 ORB. WING UPPER CREASE

(BTIC05) (29 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0000 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0000 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0000 .0000 .0000 .0000 .0000

PARAMETRIC DATA

BETA = .000 $\sqrt{RN/L}$ = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .850



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(8TKFD1) (29 APR 74)

AEDC VA352 OH4B 01+T10 ORB. FUSELAGE Z=7.525

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE
 BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .850

MACH (1) = 8.000 ALPHA (1) = -10.000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0497 .0531 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0330 .0355 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0323 .0259 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (4) = 5.000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0217 .0203 .0000 .0000 .0000 .0000

AEDC VA352 CH4B 01+T10 ORB. FUSELAGE Z=7.525

(BTXF02) (29 APR 74)

REFERENCE DATA

SREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 T1 = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .9404 .0359 .0000 .0000 .0000 .0000

MACH (1) = 8.000 BETA (2) = .000 T1 = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0323 .0259 .0000 .0000 .0000 .0000

PARAMETRIC DATA

ALPHA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .850



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(BTKE03) (29 APR 74)

AEDC VA352 CH4B 01+T10 ORB. FUSELAGE Z=7.525

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .850

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0314 .0569 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0197 .0141 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0221 .0175 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0146 .0105 .0000 .0000 .0000 .0000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 T1 = 93.550 Q1 = .020

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0246 .0246 .0000 .0000 .0000 .0000

MACH (1) = 8.000 BETA (2) = .000 T1 = 93.550 Q1 = .020

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0221 .0175 .0000 .0000 .0000 .0000

PARAMETRIC DATA

ALPHA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .850



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(BTKF05) (29 APR 74)

AEDC VA352 CH4B 01+T10 ORB. FUSELAGE Z=7.525

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3319 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .850

MACH (1) = 8.000 ALPHA (1) = -10.000 T1 = 98.067 Q1 = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0000 .0000 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 98.067 Q1 = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0000 .0000 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 T1 = 98.067 Q1 = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0000 .0000 .0000 .0000 .0000 .0000

(CYK810) (15 JAN 78)

(CTKBIID) (15 JAN 78)

PARAMETRIC DATA

BETA	=	.000	RN/L	=	3.720
B.FLAP	=	.000	ELEVON	=	.000
HAW/HT	=	.000			

MACH (1) =	8.000	ALPHA (1) =	-5.000	TI =	96.800	QI =	3.961	HREF =	.049
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DEFENDENT VARIABLE HU/HQ

[illegible][illegible]

x/L	.1200	.1250	.1300	.1400	.1500	.1560	.1609	.1629	.1670	.1699	.1709	.1789	.1809	.1829
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[illegible][illegible]

PRI
.0662 .0054 .0050 .0041 .0043 .0069 .0070 .0087 .0103 .0118 .0127 .0133
11.500 .0079

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

(CTKB19)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = -5.000

DEPENDENT VARIABLE HU/HQ

SECTION (1) CRBITER FUSELAGE

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PMI															
12.000								.0045				.0049			
21.500								.0052							
23.000															
24.000				.0079											
31.500				.0086											
34.000								.0047							
35.000				.0095				.0059							
40.000				.0140				.0086							
45.000															
51.000				.0244				.0070				.0375			
57.500															
59.500								.0062							
61.000								.0068							
65.000								.0087							
70.000															
96.500				.0217								.0146			
105.000								.0196							
106.000								.0259				.0071			
135.000															
140.000				.1955											
141.400	.5044														
151.000			.4285									.0256			
180.000				.0846	.0095			.0050				.7750	.8000	.8250	.8290
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500				
PMI															
.000	.0137	.0142	.0140	.0140	.0146	.0148	.0137	.0128	.0118	.0111	.0104	.0096	.0098	.0096	
21.500	.0072				.0099				.0171				.0259		
63.000	.0177														
64.000									.0303						
65.000													.0210		
65.500					.0467										
105.000	.0105				.0141				.0320				.0331		.0404
111.000															
112.000					.0094										
113.000					.0113										
116.000											.0364				
135.000	.0242				.0332				.0381						
149.000											.0388				
180.000	.0519				.0479				.0405				.0494		
X/L	.6500	.6750	.6900	.6750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500					

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(CTKB10)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = -5.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI										
.000	.0094	.0086	.0197	.0046	.0059	.0000	.0061	.0000	.0062	
21.500										.0046
39.000										
52.500										
55.000				.0322						
65.000				.0387						
68.000				.0385						
100.000				.0418						
108.000				.0461						
112.000					.0097					
113.500						.0090				

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.0000	.3829	.2951	.1405	.0966	.0715	.0542	.0385	.0000				.0279	.0240	.0209
10.000															.0263
14.000															.0316
20.000															.0441
22.000															.0500
24.500															
35.000															
39.000															
42.500												.0540			
48.000															
60.000															
119.000															.0947
180.000															.0731

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI															
.000	.0170	.0151	.0132	.0115	.0107						.0101		.0093		
10.000				.0191											
20.000				.0202											
25.500				.0248											
40.000				.0311											
45.500				.0309											
131.200															
145.400															
146.200									.6472	.3996				.3869	



DATE 23 JAN 75

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TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTK81D)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = .000

DEPENDENT VARIABLE HU/HO

SECTION (1) ORBITTER FUSELAGE

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

.3714 .0085

PHI

136.000

159.200

170.700

171.900

173.400

180.000

X/L

.1830

.1910

.2000

.2250

.2500

.2750

.3000

.3250

.3500

.3750

.4000

.4250

.4500

.4750

PHI

.000

11.500

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

135.000

140.000

141.400

151.000

180.000

X/L

.5000

.5250

.5500

.5750

.6000

.6250

.6500

.6750

.7000

.7250

.7500

.7750

.8000

.8250

.8290

PHI

.000

21.500

63.000

64.000

65.000

65.500

.0047

.0051

.0058

.0053

.0065

.0070

.0076

.0078

.0080

.0089

.0088

.0086

.0092

.0091

.0102

.0102

.0102

.0102

.0102

(CTK810)

AEDC VA352 CH4B 01 CRB, FUSELAGE

MACH (1) = 8.000 ALPHA (2) = .000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0204				.0130			.0204					.0226		
111.000					.0138										.0340
112.000					.0177										
113.000											.0198				
116.000					.0085			.0106							
135.000	.0042														
149.000					.0217			.0252					.0447		
160.000	.0158														
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.0090	.0089			.0036	.0072	.0075	.0000	.0072	.0000		.0000			
21.500		.0074				.0052						.0036			
39.000					.0100										
52.500															
55.000			.0165												
65.000			.0216												
68.000					.0230										
100.000			.0253												
108.000			.0343		.0237										
112.000					.0065										
113.000									.0059						



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

AEDC VA352 OH4B 01 CR8. BOTTOM SURFACE WING (CTKL10) (15 JAN 75)

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 Q1 = 3.961 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/H0

ZY/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9680 .9930

X/C

.001	.0164	.0250	.2537	.3511	.2070	.0666	.1139	.0772	.0128
.002			.3836	.2933		.1766			
.003			.2933	.2101		.1232			
.004			.2101	.1665		.0875			
.005			.1665	.1193		.0664			
.006			.1193	.0813		.0447			
.007			.0813	.2154		.0377			
.025	.0447	.1268	.1886				.1103		
.050		.0263		.0510	.0581	.0746	.0881		
.100									
.153	.0075		.0197						
.177		.0114		.0293					
.200	.0021			.0216		.0343	.0288	.0391	
.299		.0073		.0163					
.300									
.302									
.303					.0325				
.428				.0371					
.444	.0020								
.487		.0430			.0229	.0326		.0211	
.500									
.559		.0030							
.590	.0044								
.600		.0226	.0161				.0139		
.700		.0028	.0172	.0206	.0085			.0115	
.736	.0085								
.800			.0105	.0072					
.850			.0114	.0086					
.900	.0026	.0011	.0052	.0087	.0069			.0111	

MACH (1) = 8.000 ALPHA (2) = .000 T1 = 96.800 Q1 = 3.961 HREF = .049
 AEDC VA352 OH4B O1 CRB. BOTTOM SURFACE WING (CTKL10)

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0368	.0422	.1963	.2349	.3503	.2434	.0668	.1219	.0847	.0228	
.002					.2678	.4073		.1829				
.003						.3488		.1393				
.004						.2546		.1042				
.005						.2056		.0787				
.006						.1488		.0565				
.007						.1041		.0484				
.025	.0621						.2772					
.050									.1259			
.100				.0513		.0660	.0788	.0902	.1250			
.153	.0235											
.177				.0261	.0310							
.200						.0383						
.299	.0153				.0347	.0356		.0382	.0412	.0529		
.300				.0206								
.302							.0578					
.303						.0599						
.428												
.444	.0115				.0545							
.487							.0794	.0362	.0288			
.500				.0207								
.559												
.590	.0092											
.600					.0442	.0435			.0141			
.700			.0182	.0319	.0330	.0288				.0153		
.736	.0122											
.800						.0165	.0250					
.850						.0193	.0264					
.900	.0058		.0076	.0127	.0153	.0204				.0125		



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTKU10) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. UPPER SURFACE WING

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 Q1 = 3.961 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

2Y/B .4000 .6000 .8000

X/C

.050 .1859 .2539 .2647
.200 .0499 .0817 .0655
.600 .0035 .3779 .0158
.800 .0081 .0081 .0091
.900 .0101 .0094
.950 .0064 .0101 .0091

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 Q1 = 3.961 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0053 .0037 .0101
.200 .1810 .2320 .2460
.600 .0310 .0523 .0514
.800 .2998 .0102
.900 .0080 .0081
.950 .0020 .0100 .0099

DATE 23 JAN 75

TABULATED DATA CISION FOR WING AREA

AEDC VA352 OH48 O1 ORB. LEFT VERTICAL TAIL (CTKV10) (15 JAN 75)

REFERENCE DATA

SREF = .8236 SQ.FT. XHRF = .0000 IN.
 LREF = 22.5603 IN. YHRF = .0000 IN.
 BREF = 16.3919 IN. ZHRF = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 Q1 = 3.961 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEFENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .2066 .3017 .5214 .5797
 .010 .010 .2490
 .100 .0701 .0685 .1070 .1442
 .300 .0797 .0219 .0488 .0640
 .500 .1096 .0209 .0455 .0552
 .700 .0272 .0374 .0060 .0121
 .900 .0306 .0192 .0128

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 Q1 = 3.961 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEFENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .2316 .1887 .3516 .3688
 .010 .010 .1446
 .100 .0723 .0673 .0711 .1033
 .300 .0535 .0239 .0348 .0490
 .500 .0485 .0206 .0332 .0349
 .700 .0286 .0368 .0062 .0096
 .900 .0246 .0082 .0096



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

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AEDC VA352 CH48 Q1 CRB. RCS CENTER

(CTKR10) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 T1 = 96.800 Q1 = 3.961 HREF = .049

SECTION (1) RCS CENTER DEFENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0377 .0068 .0210 .0387 .0385

MACH (1) = 8.000 ALPHA (2) = .000 T1 = 96.800 Q1 = 3.961 HREF = .049

SECTION (1) RCS CENTER DEFENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0540 .0056 .0102 .0216 .0230

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .0230 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 T1 = 96.800 Q1 = 3.961 HREF = .049

SECTION (1) CMS P00

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z
8.295 .3244 .1593 .0888 .0507 .0161 .0158 .0146
8.540 .2445
8.650 .2899
8.727 .1340
8.750 .0000 .0183
8.855 .0458
8.942 .1209
8.978 .0207
9.056 .0561
9.118 .0308
9.222 .0507
9.275 .0212

MACH (1) = 8.000 ALPHA (2) = .000 T1 = 96.800 Q1 = 3.961 HREF = .049

SECTION (1) CMS P00

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z
8.295 .0448 .1311 .1198 .0712 .0345 .0375 .0311
8.540 .2357
8.650 .1857
8.727 .1872
8.750 .0000 .0290
8.855 .0622
8.942 .1258
8.978 .0307
9.056 .0596
9.118 .0623
9.222 .0528
9.275 .0309



TABULATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

(CTKY10) (15 JAN 75)

AEDC VA352 CH48 01 ORB. FUSELAGE Y=0.875

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0079 .0052 .0049 .0072 .0099 .0171 .0259 .0197

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1709 .0152 .0098 .0081 .0101 .0091 .0102 .0074

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0375 .0177 .0467 .0303 .0322

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0255 .0097 .0189 .0102 .0165

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000



REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.

LREF = 22.5803 IN. YMRP = .0000 IN.

BREF = 16.3919 IN. ZMRP = .0000 IN.

SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 T1 = 96.800 Q1 = 3.961 HREF = .049

PARAMETRIC DATA

BETA = .000 RN/L = 3.720

B.FLAP = .000 ELEVON = .000

HAW/HT = .000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0196 .0146 .0105 .0141 .0320 .0331

MACH (1) = 8.000 ALPHA (2) = .000 T1 = 96.800 Q1 = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0253 .0257 .0204 .0130 .0204 .0226

REFERENCE DATA

3REF =	.8230 SQ.FT.	XREF =	.0000 IN.
2REF =	22.5603 IN.	YREF =	.0000 IN.
1REF =	16.3519 IN.	ZREF =	.0000 IN.
SCALE =	.0175 SCALE		

MACH (1) = 8.000 ALPHA (1) = -5.000

SECTION (1) CRBITER FUSELAGE

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	0.0000	0.0050	0.0100	0.0200	0.0250	0.0300	0.0400	0.0500	0.0600	0.0700	0.0750	0.0800	0.0900	0.1000	0.1100	0.1200	0.1300	0.1400	0.1500	0.1600	0.1700	0.1800	0.1900	0.2000	0.2100	0.2200	0.2300	0.2400	0.2500	0.2600	0.2700	0.2800	0.2900	0.3000	0.3100	0.3200	0.3300	0.3400	0.3500	0.3600	0.3700	0.3800	0.3900	0.4000	0.4100	0.4200	0.4300	0.4400	0.4500	0.4600	0.4700	0.4800	0.4900	0.5000	0.5100	0.5200	0.5300	0.5400	0.5500	0.5600	0.5700	0.5800	0.5900	0.6000	0.6100	0.6200	0.6300	0.6400	0.6500	0.6600	0.6700	0.6800	0.6900	0.7000	0.7100	0.7200	0.7300	0.7400	0.7500	0.7600	0.7700	0.7800	0.7900	0.8000	0.8100	0.8200	0.8300	0.8400	0.8500	0.8600	0.8700	0.8800	0.8900	0.9000	0.9100	0.9200	0.9300	0.9400	0.9500	0.9600	0.9700	0.9800	0.9900	1.0000							

444

.000	.3670	.2684	.1191	.0801	.0564	.0416	.0356	.0300	.0224	.0196	.0162	.0205
10.000												
14.000						.0561						
20.000						.0591						
22.000												
24.500						.0791						
35.000												
39.000												
42.500						.0849						
48.000									.0588			
60.000						.1542						
119.000												
180.000	.4592	.2426				.1616			.1167		.1160	.1006

7/2

CHI

Year	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100																																																																																																				
1960	10.000	10.000	20.000	25.500	40.000	45.500	131.200	145.400	146.200	156.000	159.200	170.700	171.900	173.400	180.000	1830	1900	1910	2000	2250	2644	3569	3850	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000	7250	7500	7750	8000	8250	8500	8750	9000	9250	9500	9750	10000	10250	10500	10750	11000	11250	11500	11750	12000	12250	12500	12750	13000	13250	13500	13750	14000	14250	14500	14750	15000	15250	15500	15750	16000	16250	16500	16750	17000	17250	17500	17750	18000	18250	18500	18750	19000	19250	19500	19750	20000	20250	20500	20750	21000	21250	21500	21750	22000	22250	22500	22750	23000	23250	23500	23750	24000	24250	24500	24750	25000	25250	25500	25750	26000	26250	26500	26750	27000	27250	27500	27750	28000	28250	28500	28750	29000	29250	29500	29750	30000	30250	30500	30750	31000	31250	31500	31750	32000	32250	32500	32750	33000	33250	33500	33750	34000	34250	34500	34750	35000	35250	35500	35750	36000	36250	36500	36750	37000	37250	37500	37750	38000	38250	38500	38750	39000	39250	39500	39750	40000	40250	40500	40750	41000	41250	41500	41750	42000	42250	42500	42750	43000	43250	43500	43750	44000	44250	44500	44750	45000	45250	45500	45750	46000	46250	46500	46750	47000	47250	47500	47750	48000	48250	48500	48750	49000	49250	49500	49750	50000	50250	50500	50750	51000	51250	51500	51750	52000	52250	52500	52750	53000	53250	53500	53750	54000	54250	54500	54750	55000	55250	55500	55750	56000	56250	56500	56750	57000	57250	57500	57750	58000	58250

PARAMETRIC DATA

BETA	=	.000	RN/L	=	.680
B.FLAP	=	.000	ELEVON	=	.000
HAW/HT	=	.000			

677 HREF = .929

DEFENDENT VARIABLE HU/HQ

[illegible]

DATE 23 JAN 75

TABULATED DATA LISTING FOR OH48 (AEDC VA352)

PAGE 129

(CTRB11)

AEDC VA352 OH48 O1 CRB. FUSELAGE

MACH (1) = 0.000 ALPHA (1) = -5.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HD

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

.1990

.3146

.5000

.5250

.5500

.5750

.6000

.6250

.6500

.6750

.7000

.7250

.7500

.7750

.8000

.8250

.8500

.8750

.9000

.9250

.9500

.9750

1.0000

1.0130

1.0140

1.0250

1.0380

1.0500

PHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

.1990

.3146

.5000

.5250

.5500

.5750

.6000

.6250

.6500

.6750

.7000

.7250

.7500

.7750

.8000

.8250

.8500

.8750

.9000

.9250

.9500

.9750

1.0000

1.0130

1.0140

1.0250

1.0380

1.0500

PHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

.1990

.3146

.5000

.5250

.5500

.5750

.6000

.6250

.6500

.6750

.7000

.7250

.7500

.7750

.8000

.8250

.8500

.8750

.9000

.9250

.9500

.9750

1.0000

1.0130

1.0140

1.0250

1.0380

1.0500

MACH (1) = 8.000 ALPHA (1) = -5.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

FHI

.000 .0147 .0143 .0139 .0145 .0127 .0027 .0115 .0000 .0113 .0000 .0109
 21.500 .0065
 39.000
 52.500
 55.000 .0571
 65.000 .0249
 68.000
 100.000 .0322
 108.000 .0197
 112.000
 113.000 .0044 .0053

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

FHI

.000 .3839 .2908 .1379 .0979 .0760 .0566 .0423 .0000 .0294 .0251 .0222 .0277
 10.000
 14.000 .0741
 20.000 .0769
 22.000
 24.500 .0863
 35.000
 39.000 .0739
 42.500 .1295
 48.000
 60.000 .1275
 119.000 .3947 .2032 .0905 .0549
 180.000

X/L

.1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

FHI

.000 .0191 .0177 .0162 .0138 .0188 .0215 .0267 .0317 .0328
 10.000
 20.000
 25.500
 40.000
 45.500
 131.200
 145.400
 146.800

.1026

.1318

.1933



AEDC VA392 OH48 O1 ORB. FUSELAGE (CTKB11)

MACH (1) = 0.000 ALPHA (2) = .000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0070				.0041				.0043				.0040		.0063
111.000					.0061										
112.000					.0082										
113.000															
116.000											.0064				
135.000	.0084				.0034			.0040							
149.000											.0065				
180.000	.0110				.0133			.0135					.0250		
X/L															
.8500	.6750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500				
PHI															
.000	.0030	.0029	.0026	.0031	.0029	.0038	.0026	.0000		.0031	.0000	.0027			
21.500			.0044												
39.000															
52.500															
55.000			.0247												
65.000			.0250												
68.000						.0019									
100.000															
108.000			.0109												
112.000			.0121												
113.000						.0061			.0057						



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTRL11) (15 JAN 75)

AEDC VA352 OH4B O1 ORB. BOTTOM SURFACE WING

REFERENCE DATA

SREF = .8238 30.FT. XMRP = .0000 IN. BETA = .000 RN/L = .680
 LREF = 22.5803 IN. YMRP = .0000 IN. B.FLAP = .000 ELEVON = .000
 SREF = 16.3919 IN. ZMRP = .0000 IN. HAU/HT = .000
 SCALE = .0175 SCALE

MACH (1) = 0.000 ALPHA (1) = -5.000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9500 .9660 .9930

X/C .001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

.002 .003 .004 .005 .006 .007 .025 .030 .100 .153 .177 .200 .299 .300 .302 .303 .428 .444 .487 .500 .559 .590 .600 .700 .736 .800 .850 .900

.001 .0178 .0265 .2523 .3606 .0729 .1172 .0779 .0152

(CTKL11)

AEDC VA352 CH48 O1 ORB. BOTTOM SURFACE WING

MACH (1) = 8.000 ALPHA (2) = .000 T1 = 93.000 Q1 = .677 HREF = .020

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/H0

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0334	.0408	.2719	.3618	.2540	.0718	.1229	.0830	.0208
.002			.4166			.1865			
.003			.3492			.1405			
.004			.2542			.1068			
.005			.1906			.0815			
.006			.1499			.0583			
.007			.1052			.0497			
.025	.0461	.1912	.2344			.2890			
.050		.0564		.3674	.0864	.0937	.1282		
.100							.1272		
.153	.0232								
.177			.0310						
.200		.0288		.0378					
.299	.0146								
.300			.0256	.0236		.0411	.0425	.0510	
.302		.0226							
.303					.0568				
.428	.0129			.0294					
.444									
.487			.0275						
.500		.0165			.0390	.0355	.0296		
.559	.0107								
.600			.0192	.0172			.0158		
.700		.0126	.0163	.0158	.0146			.0163	
.736	.0117								
.800			.0086	.0130					
.850			.0105	.0147					
.900	.0045	.0066	.0084	.0098	.0116			.0140	



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTRU11) (15 JAN 75)

AEDC VA352 CH4B O1 ORB. UPPER SURFACE WING

REFERENCE DATA

SREF = .0230 SQ.FT. YMRP = .0000 IN. BETA = .000 RN/L = .680
LREF = 22.5803 IN. YMRP = .0000 IN. B.FLAP = .000 ELEVON = .000
BREF = 16.3919 IN. ZMRP = .0000 IN. HAW/HT = .000
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000

X/C

.050 .1663 .2510 .2713
.200 .0446 .0623 .0636
.600 .0052 .3097 .0200
.800 .0074 .0122
.900 .0085 .0130
.950 .0114 .0085 .0135

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000

X/C

.050 .1624 .2246 .2407
.200 .0319 .0408 .0531
.600 .0025 .2328 .0108
.800 .0054 .0075
.900 .0055 .0082
.950 .0044 .0052 .0079

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKR11) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. RCS CENTER

PARAMETRIC DATA

BETA = .000 RN/L = .680
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) RCS CENTER DEFENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0588 .0079 .0327 .0249 .0211

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) RCS CENTER DEFENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0549 .0084 .0088 .0250 .0178

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5823 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) CMB P00

DEPENDENT VARIABLE HU/H0

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .1117 .0712 .0498 .0452 .0317 .0301 .0262
8.540 .1588
8.650 .2555
8.727 .1496
8.750
8.855 .0674
8.942 .1073
8.978 .0193
9.056 .0665
9.118 .0301
9.222 .0375
9.275 .0133

PARAMETRIC DATA

BETA = .000 RN/L = .580
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) CMB P00

DEPENDENT VARIABLE HU/H0

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0082 .0336 .0621 .0507 .0255 .0278 .0212
8.540 .0471
8.650 .0327
8.727 .1122
8.750
8.855 .0621
8.942 .0407
8.978 .0232
9.056 .0223
9.118 .0340
9.222 .0288
9.275 .0169



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

AEDC VA352 CH4B O1 ORB. FUSELAGE Y=0.875 (CTKY11) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0106 .0066 .0044 .0041 .0045 .0061 .0064 .0065

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0164 .0103 .0075 .0065 .0049 .0047 .0046 .0044

PARAMETRIC DATA

BETA = .000 RV/L = .680
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE DEFICIENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

FH1
 62.000 .0159 .0080 .0150 .0189 .0571

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE DEFICIENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

FH1
 62.000 .0121 .0058 .0085 .0054 .0247

PARAMETRIC DATA

BETA = .000 RN/L = .580
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .500



(CTKF11) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. FUSELAGE Z=7.525

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z
 7.525 .0206 .0165 .0089 .0038 .0039 .0059

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z
 7.525 .0160 .0126 .0070 .0041 .0043 .0040

PARAMETRIC DATA

BETA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

AEDC VA352

PARAMETRIC DATA

BETA	=	.000	RN/L	=	.500
B.FLAP	=	.000	ELEVON	=	.000
HAW/HT	=	.000			

REF ID: A524

DEPENDENT VARIABLE H4U/H3D

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
10.000	.0000	.4402	.4247	.2790		.2698	.1967	.1671	.1367	.0000			.1183	.1097	.1008
14.000								.2106						.1171	.1098
20.000								.2039							.1246
22.000															.1355
24.500															.0781
35.000								.1041							
39.000								.0810							
42.500												.0571			
48.000								.0445							
60.000															
119.000						.0612		.0277							.0216
180.000			.0321								.0154				.0119

x/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
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[illegible][illegible]

DATE 23 JAN 75 TABULATED DATA LISTING FOR OH48 (AEDC VA352)
AEDC VA352 OH48 01 ORB, FUSELAGE (CTK812)

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000
21.500
23.000
24.000
31.500
34.000
35.000
40.000
45.000
51.000
57.500
59.500
61.000
65.000
70.000
96.500
105.000
106.000
135.000
140.000
141.400
151.000
160.000

.0654
.0617
.0733

.0912
.1057
.1022
.1068
.0448

.0857
.0857
.0859

.0122
.0250
.0248
.0185
.0125
.0020

.0148
.0035
.0067
.0137
.0035
.0028
.0051

.0077
.5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

PHI

.0000
21.500
63.000
64.000
65.000
65.500
105.000
111.000
112.000
113.000
116.000
135.000
149.000
160.000

.0494
.0488
.0506
.0565
.0011
.0285
.0015
.0227
.0352
.0384
.0032
.0056
.0058
.0099
.0029
.0054
.0058
.0039
.0041

.0463
.0493
.0470
.0491
.0477
.0465
.0427
.0453
.0013
.0089
.0015
.0027
.0352
.0384
.0032
.0056
.0058
.0099
.0029
.0054
.0058
.0039
.0041

.0416
.0389
.0364
.0366
.0004
.0035
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.0035

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

(CTR812)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HJ/HQ

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI	.0303	.0306	.0265	.0255	.0207	.0258	.0176	.0000	.0180	.0000	.0168	
21.500			.0293				.0310				.0258	
39.000						.0038						
52.500			.0010									
55.000			.0013									
65.000						.0014						
68.000												
100.000			.0018									
108.000			.0037			.0030						
112.000						.0022						
113.000							.0028					

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HJ/HQ

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.4328	.4296	.2965		.2481	.2157	.1864	.1576	.0000	.1357	.1288	.1206	.1367	
10.000								.2370					.1411		
14.000								.2214					.1521		
20.000								.1007					.0762		
24.500								.0754							
35.000								.0341							
39.000								.0196							
42.500								.0447			.0121				
48.000												.0516			
60.000													.0148		
119.000													.0087		
180.000															

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HJ/HQ

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.1149	.1080	.1017	.0942	.1199	.1103	.1238	.0868	.0593						
10.000															
10.000															
20.000															
25.500															
40.000															
45.500															
131.200															
145.400															
146.200															

.0073

.0054



(CTR812)

AEDC VA352 OR48 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0313			.0105				.0051					.0012		.0020
111.000				.0152											
112.000				.0175											
113.000											.0058				
116.000	.0029			.0045				.0033			.0029				
135.000															
149.000	.0046			.0055				.0051					.0051		
180.000															

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000 .0395 .0367 .0342 .0330 .0288 .0316 .0235 .0000 .0225

21.500 .0358

39.000

52.500 .0011

55.000 .0004

65.000 .0004

68.000 .0014

100.000 .0012

108.000 .0031

112.000

115.000

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.0000	.4153	.4279	.3080	.2677	.2323	.2067	.1758	.0000			.1533	.1464	.1336	.1336
10.000														.1577	.1577
14.000									.2553					.1560	.1560
20.000									.2352					.1638	.1638
22.000									.0974					.0733	.0733
24.500									.0705						
35.000									.0264						
39.000									.0153						
42.500									.0325			.0093			.0125
48.000									.0466						.0079
60.000															
115.000															
180.000															

X/L

.1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1780 .1800 .1810 .1820



{CTKB12}

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

DEPENDENT VARIABLE HU/HQ

x/L
.1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1705 .1710 .1800

PHI	1123	.1075	.1062
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10.000	.1378
10.000	.1380

25.500 .1382

	0574	0575	0576	0577	0578	0579	0580	0581	0582	0583	0584	0585	0586	0587	0588	0589	0590	0591	0592	0593	0594	0595	0596	0597	0598	0599	0600	0601	0602	0603	0604	0605	0606	0607	0608	0609	0610	0611	0612	0613	0614	0615	0616	0617	0618	0619	0620	0621	0622	0623	0624	0625	0626	0627	0628	0629	0630	0631	0632	0633	0634	0635	0636	0637	0638	0639	0640	0641	0642	0643	0644	0645	0646	0647	0648	0649	0650	0651	0652	0653	0654	0655	0656	0657	0658	0659	0660	0661	0662	0663	0664	0665	0666	0667	0668	0669	0670	0671	0672	0673	0674	0675	0676	0677	0678	0679	0680	0681	0682	0683	0684	0685	0686	0687	0688	0689	0690	0691	0692	0693	0694	0695	0696	0697	0698	0699	0700	0701	0702	0703	0704	0705	0706	0707	0708	0709	0710	0711	0712	0713	0714	0715	0716	0717	0718	0719	0720	0721	0722	0723	0724	0725	0726	0727	0728	0729	0730	0731	0732	0733	0734	0735	0736	0737	0738	0739	0740	0741	0742	0743	0744	0745	0746	0747	0748	0749	0750	0751	0752	0753	0754	0755	0756	0757	0758	0759	0760	0761	0762	0763	0764	0765	0766	0767	0768	0769	0770	0771	0772	0773	0774	0775	0776	0777	0778	0779	0780	0781	0782	0783	0784	0785	0786	0787	0788	0789	0790	0791	0792	0793	0794	0795	0796	0797	0798	0799	0800	0801	0802	0803	0804	0805	0806	0807	0808	0809	0810	0811	0812	0813	0814	0815	0816	0817	0818	0819	0820	0821	0822	0823	0824	0825	0826	0827	0828	0829	0830	0831	0832	0833	0834	0835	0836	0837	0838	0839	0840	0841	0842	0843	0844	0845	0846	0847	0848	0849	0850	0851	0852	0853	0854	0855	0856	0857	0858	0859	0860	0861	0862	0863	0864	0865	0866	0867	0868	0869	0870	0871	0872	0873	0874	0875	0876	0877	0878	0879	0880	0881	0882	0883	0884	0885	0886	0887	0888	0889	0890	0891	0892	0893	0894	0895	0896	0897	0898	0899	0900	0901	0902	0903	0904	0905	0906	0907	0908	0909	0910	0911	0912	0913	0914	0915	0916	0917	0918	0919	0920	0921	0922	0923	0924	0925	0926	0927	0928	0929	0930	0931	0932	0933	0934	0935	0936	0937	0938	0939	0940	0941	0942	0943	0944	0945	0946	0947	0948	0949	0950	0951	0952	0953	0954	0955	0956	0957	0958	0959	0960	0961	0962	0963	0964	0965	0966	0967	0968	0969	0970	0971	0972	0973	0974	0975	0976	0977	0978	0979	0980	0981	0982	0983	0984	0985	0986	0987	0988	0989	0990	0991	0992	0993	0994	0995	0996	0997	0998	0999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1
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101,200	
145,400	
	.0060

148,000		.0781	012A
156,000			

139.230	
170.700	
	,0024

173,400	.0210
173,400	.0210

[illegible]

7/X

FBI	.0975	.0912	.0821	.0959	.0901	.0855	.0835	.0822	.0773	.0756
FBI	.0970	.0912	.0821	.0959	.0901	.0855	.0835	.0822	.0773	.0756

006'11	4501'
006'21	0918'

21.500	.1124
23.000	.1124

24,000	.1203
34,500	1329

34.0003	.1149
35.0003	1303

40.000	,1168
	.1144
45.000	1048

	51.0000	.0436	
			0004
			0004

59,500

65,000 .0209

96.500 .0206

106.000	.0153
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140.000	.0037
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151.000	.0097
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[illegible]

(CTRB12)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) CABIN FUSELAGE DEPENDENT VARIABLE MU/HO

X/L .5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

PHI	.000	.0728	.0716	.0702	.0725	.0706	.0703	.0683	.0675	.0619	.0627	.0620	.0583	.0547	.0497
21.500	.0784				.0649					.0669			.0522		
63.000	.0037									.0006					
64.000															
65.000					.0006								.0003		
65.500	.0198				.0061					.0041			.0005		.0005
105.000															
111.000															
112.000					.0168										
113.000					.0122							.0035			
116.000									.0023						
135.000	.0029				.0036							.0031			
149.000									.0047						
180.000	.0027				.0037								.0051		

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI	.000	.0483	.0465	.0428	.0413	.0355	.0378	.0303	.0000	.0290	.0000	.0286			
21.500				.0448									.0378		
39.000								.0043							
52.500				.0013											
55.000				.0010											
65.000						.0009									
68.000				.0007											
100.000				.0007											
108.000						.0033									
112.000							.0044								
113.000								.0063							



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKL12) (15 JAN 75)

AEDC VA352 CH4B O1 ORB. BOTTOM SURFACE WING

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .0238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9500 .9660 .9930

X/C

.001	.0444	.0252	.3386	.1859	.2576	.0566	.1136	.0626	.0271
.002			.2417	.2024					
.003			.3619	.1959					
.004			.3067	.1769					
.005			.2870	.1602					
.006			.2498	.1335					
.007			.2086	.1191					
.008			.1945	.4057	.3524				
.009			.1591	.1441	.1797	.2091			
.010									
.011			.1199	.0951					
.012			.1035						
.013			.0869	.1169	.0850	.1040	.1243	.1128	
.014					.5894				
.015			.1016						
.016			.1040						
.017					.0926	.0819	.1019		
.018			.0720						
.019			.0902	.0794			.0508		
.020			.0662	.0808	.0418			.0641	
.021									
.022			.0509	.0341	.0391				
.023				.0466	.0501				
.024				.0381	.0435	.0448			.0600
.025			.0186						

AEDC VA352 OR48 O1 ORB. BOTTOM SURFACE WING (CTKL12)

MACH (1) = 0.000 ALPHA (2) = 30.000 TI = 93.400 Q1 = .524 HREF = .010

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0384	.0246		.3020	.1700	.2276	.0487		.1014	.0585	.0227	
.002				.2739	.1838							
.003				.3602	.1839							
.004				.3916	.1729							
.005				.3249	.1589							
.006				.3329	.1354							
.007				.2725	.1165							
.025	.0494		.1891	.3890		.3235				.1368		
.050			.1618		.1842	.1902	.2147			.1423		
.100	.1143											
.153				.1197								
.177					.1364							
.200	.0750		.1083									
.299				.1106	.1063	.0929	.1286	.1335				
.300			.0943									
.302						.1129						
.303					.1167							
.428	.0659			.1139		.0999	.0984		.0927			
.444			.0754									
.487												
.500												
.559	.0507			.0826	.0763		.0488					
.590			.0697	.0735	.0628	.0500			.0525			
.600						.0384	.0451					
.700						.0530	.0598					
.736	.0588					.0467	.0533		.0555			
.800			.0421	.0557								
.850												
.900	.0222											

MACH (1) = 0.000 ALPHA (3) = 35.000 TI = 93.400 Q1 = .524 HREF = .010

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0479	.0232		.2690	.2008	.2018	.0412		.0866	.0487	.0231	
.002				.3401	.1552							
.003				.4718	.1601							
.004				.4927	.1547							
.005				.4178	.1462							
.006				.3813	.1283							
.007				.3146	.1207							
.025	.0478		.1619	.3580		.2962						



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKL12)

AEDC VA352 CH4B 01 CRB. BOTTOM SURFACE WING

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/H0

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050				.1656		.2175	.2067	.2019		.1159		
.100										.1195		
.153	.1129				.1206	.1539						
.177				.1139								
.200												
.299	.0832											
.300				.1058	.1073	.1227	.1345	.1225				
.302				.0957		.1234						
.303					.1367							
.428												
.444	.0777				.1354	.1108	.1078		.1006			
.487												
.500												
.559				.0800								
.590	.0613				.0840	.0750			.0568			
.600				.0725	.0721	.0719	.0575			.0670		
.700												
.736	.0679					.0415	.0523					
.800						.0609	.0699					
.850						.0561	.0635					
.900	.0272			.0471	.0570					.0664		

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE MU/HQ

ZY/B .4000 .6000 .8000

X/C

.050 .0375 .1050 .1398
 .200 .0051 .0134 .0151
 .600 .0005 .0630 .0052
 .800 .0007 .0042
 .900 .0015 .0057
 .950 .0020 .0029 .0086

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE MU/HQ

ZY/B .4000 .6000 .8000

X/C

.050 .0287 .0960 .1128
 .200 .0036 .0137 .0126
 .600 .0006 .0478 .0068
 .800 .0004 .0052
 .900 .0016 .0066
 .950 .0022 .0033 .0088

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE MU/HQ

ZY/B .4000 .6000 .8000

X/C

.050 .0205 .0930 .0872
 .200 .0032 .0125 .0110
 .600 .0008 .0274 .0054
 .800 .0016 .0041
 .900 .0029 .0059
 .950 .0029 .0049 .0085

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAF = .000 ELEVON = .000
 HAW/HT = .000



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTKV12) (15 JAN 75)

AEDC VA352 OH4B 01 CRB, LEFT VERTICAL TAIL

REFERENCE DATA

SREF = .8238 SQ.FT. XHRF = .0000 IN.
LREF = 22.5803 IN. YHRF = .0000 IN.
BREF = 16.3919 IN. ZHRF = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C
.000 .0521 .0417 .0485 .0489
.010 .0189 .0180 .0210 .0237
.300 .0082 .0066 .0090 .0131
.500 .0071 .0072 .0093 .0081
.700 .0037 .0040 .0036 .0043
.900 .0036 .0051 .0048

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C
.000 .0322 .0218 .0251 .0155
.010 .0174 .0135 .0167 .0198
.300 .0068 .0063 .0099 .0137
.500 .0049 .0076 .0100 .0085
.700 .0025 .0014 .0029 .0049
.900 .0017 .0033 .0050

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C
.000 .0266 .0204 .0335 .0296
.010 .0146 .0126 .0127 .0234
.300 .0056 .0036 .0103 .0164
.500 .0015 .0061 .0131 .0134
.700 .0009 .0017 .0020 .0066
.900 .0003 .0003 .0003 .0003

DATE 23 JAN 75

TABULATED DATA LISTING FOR ORB. RCS CENTER

AEDC VA352 OR48 01 ORB. RCS CENTER

(CTKR12) (15 JAN 75)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 Q1 =

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0571 .0248 .0004 .0013 .0014

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 Q1 =

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0516 .0221 .0002 .0004 .0120

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 Q1 =

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0508 .0200 .0003 .0010 .0009

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

.524 HREF = .018

.524 HREF = .018

.524 HREF = .018



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKM12) (15 JAN 75)

AEDC VA352 CH4B 01 CRB. CMS POD

PARAMETRIC DATA

BETA = .000 RN/L = .500
B-FLAP = .000 ELEVON = .000
HAW/HIT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) CMS POD DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z
8.295 .0106 .0267 .0421 .0392 .0130 .0137 .0108
8.540 .0338
8.650 .0252
8.727 .0635
8.750
8.855 .0336
8.942 .0193
8.978 .0171
9.056 .0031
9.118 .0089
9.222 .0069
9.275 .0033

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) CMS POD DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z
8.295 .0044 .0135 .0171 .0146 .0055 .0060 .0041
8.540 .0156
8.650 .0105
8.727 .0267
8.750
8.855 .0200
8.942 .0087
8.978 .0084
9.056 .0035
9.118 .0045
9.222 .0066
9.275 .0044

(CTRM12)

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) CHS FOD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0550	1.0140
2							
8.295	.0021	.0035	.0056	.0068	.0021	.0025	.0050
8.540		.0045					
8.650		.0040					
8.727			.0080				
8.750						.0000	.0036
8.855				.0091			
8.942			.0038				
8.978				.0041			
9.056			.0051				
9.118			.0029				
9.222				.0048			
9.275				.0029			



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTRY12) (15 JAN 75) AEDC VA352 CH48 01 CRB. FUSELAGE Y=0.875

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAF = .000 ELEVON = .000
HAW/HI = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XHRF = .0000 IN.
LREF = 22.5803 IN. YHRF = .0000 IN.
BREF = 16.3919 IN. ZHRF = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) CRBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0912 .0733 .0617 .0565 .0470 .0453 .0366 .0293

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) CRBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1056 .0877 .0750 .0687 .0565 .0562 .0432 .0358

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) CRBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1203 .1024 .0865 .0764 .0649 .0669 .0522 .0448

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000
PHI
62.000 .0040 .0011 .0015 .0013 .0010

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000
PHI
62.000 .0025 .0007 .0010 .0000 .0011

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000
PHI
62.000 .0022 .0007 .0006 .0006 .0013

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = .000 ELEVON = .000
HAW/HT = .000



DATE 23 JAN 75
TABULATED DATA LISTING FOR CH4B (AEDC VA352)
AEDC VA352 CH4B 01 ORB. FUSELAGE Z=7.525
(CTKF12) (15 JAN 75)

REFERENCE DATA
SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE
MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 QI = .524 HREF = .018
SECTION (1) ORBITER FUSELAGE
X/L .3000 .4000 .5000 .6000 .7000 .8000
Z 7.525 .0148 .0125 .0285 .0227 .0089 .0035
MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 QI = .524 HREF = .018
SECTION (1) ORBITER FUSELAGE
X/L .3000 .4000 .5000 .6000 .7000 .8000
Z 7.525 .0151 .0132 .0313 .0105 .0051 .0012
MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 QI = .524 HREF = .018
SECTION (1) ORBITER FUSELAGE
X/L .3000 .4000 .5000 .6000 .7000 .8000
Z 7.525 .0153 .0168 .0198 .0081 .0041 .0005

PARAMETRIC DATA
BETA = .000 RN/L = .500
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .6236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 3I = 1.003 HREF = .025

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
FHI	.0000	.0000	.4198	.4181	.2908	.2435	.2122	.1819	.1532	.0000			.1338	.1273	.1031
10.000								.2344							.1346
14.000															.1399
20.000								.2163							.1478
22.000								.0978							.0743
24.500								.0720							
35.000								.0319							
39.000								.0178		.0113					
42.500				.0528	.0422						.0512				.0146
48.000															.0083
60.000															
119.000															
180.000															
X/L	.1200	.1250	.1300	.1400	.1500	.1550	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FHI	.1129	.1054	.0983	.0910	.0915					.0885			.0872		
10.000				.1182											
20.000				.1563											
25.500				.1237											
40.000				.0876											
45.500				.0575											
131.200									.0049						
145.400													.0081		
146.200								.0056							
156.000															
159.200															
170.700															
171.900										.0158		.0072			.0164
173.400													.0115		
180.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FHI	.0067			.0092	.0304	.0183					.1070		.0453		
10.000															
11.900															
X/L	.0838	.0805	.0760	.0747	.0692	.0781	.0751	.0714	.0709	.0672	.0640	.0607			
11.900															



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTK813)

AEDC VA352 CH4B O1 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
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PHI

12.000								.0792				.0722			
21.500								.0885							
23.000															
24.000				.1034											
31.500				.1178											
34.000								.1000							
35.000				.1152				.0995							
40.000				.1124				.0943							
45.000															
51.000				.0415				.0099				.0026			
57.500								.0198				.0121			
59.500								.0220				.0013			
61.000								.0198							
65.000															
70.000															
96.500				.0211				.0147				.0057			
105.000								.0019							
106.500															
135.000				.0044											
140.000															
141.400	.0053			.0140		.0029		.0025							
151.000															
180.000															

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
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PHI

.0000	.0602	.0593	.0582	.0593	.0595	.0579	.0562	.0547	.0517	.0500	.0489	.0462	.0457	.0399	
21.500	.0657				.0556				.0556				.0403		
63.000	.0007														
64.000									.0001				.0003		
65.000															
65.500					.0011								.0011		
105.000	.0359				.0133				.0053						.0018
111.000															
112.000					.0205										
113.000					.0247										
116.000											.0074				
135.000	.0021				.0031				.0028						
149.000											.0032				
180.000	.0062				.0061				.0050				.0037		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
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PHI

(CTRB13)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000 .0378 .0357 .0335 .0313 .0276 .0316 .0220 .0000 .0237 .0000 .0224
 21.500 .0348
 39.000
 52.500 .0009
 55.000 .0008
 65.000 .0029
 68.000 .0008
 100.000 .0013
 108.000
 112.000 .0010
 113.000 .0020

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0800 .0900 .1000

PHI

.000 .0000 .4087 .4174 .3020 .2579 .2283 .2076 .1717 .0000 .1484 .1440 .1302
 10.000
 14.000 .2504
 20.000 .2322
 22.000 .0951
 24.500 .0669
 35.000 .0256
 39.000 .0132
 42.500 .0638 .0311 .0078 .0468
 48.000
 60.000 .0107
 119.000 .0086
 180.000

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

PHI

.000 .1558 .1213 .1134 .1065 .1386 .1214 .1338 .1338 .0915 .0571 .0046 .0070 .0071
 10.000
 20.000
 25.500
 40.000
 45.500
 131.200
 145.400
 146.200

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0257				.0086				.0038				.0007		.0005
111.000					.0143										
112.000					.0164										
113.000															
116.000					.0032				.0023		.0026				
135.000	.0023				.0028				.0033		.0038				
149.000	.0018														
180.000															
X/L	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500	.8750	.9000	.9250	.9500	.9750	1.0000
PHI															
.000	.0449	.0448	.0403	.0394	.0350	.0379	.0289	.0000	.0305	.0000	.0287				
21.500			.0435												
39.000						.0466					.0379				
52.500			.0007			.0056									
55.000			.0009												
65.000						.0032									
68.000						.0030									
100.000			.0004												
108.000			.0005												
112.000						.0060									
113.000															

MACH (1) = 8.000 ALPHA (3) = 40.000 T1 = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000	
PHI															
.000	.0000	.3852	.4085	.3025		.2702	.2441	.2184	.1844	.0000		.1632	.1559	.1479	
10.000														.1690	
14.000								.2635						.1698	
20.000								.2458						.1667	
22.000														.0665	
24.500								.0873							
35.000								.0648							
39.000								.0196				.0445			
42.500															
48.000															
60.000															
115.000			.0662	.0217				.0103			.0079			.0074	
180.000														.0106	
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820



(CTRB13)

AEDC VA352 CH4B O1 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 40.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000	.0819	.0817	.0781	.0775	.0756	.0759	.0757	.0722	.0666	.0675	.0670	.0623	.0599	.0533	
21.500	.0876				.0717				.0735				.0563		
63.000	.0605								.0007						
64.000													.0004		
65.000					.0054										
65.500	.0200				.0074				.0014				.0009		
105.000															.0004
111.000															
112.000					.0115										
113.000					.0130										
116.000											.0017				
135.000	.0023				.0027				.0021						
149.000											.0052				
180.000	.0029				.0031				.0031				.0024		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.0320	.0524	.0483	.0464	.0433	.0458	.0358	.0000		.0363	.0000	.0370			
21.500		.0542													
39.000															
52.500						.0068						.0458			
55.000			.0018												
65.000			.0019												
68.000					.0031										
100.000			.0020												
108.000			.0014												
112.000					.0052		.0075								
113.000									.0080						



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKL13) (15 JAN 75)

AEDC VA352 CH4B O1 CRB. BOTTOM SURFACE WING

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
B.F.LAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HD

27/8 .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0462	.0241	.2984	.1667	.2231	.0472	.1003	.0586	.0308
.002			.2748			.1842			
.003			.3569			.1790			
.004			.3692			.1682			
.005			.3176			.1543			
.006			.3272			.1301			
.007			.2629			.1166			
.025	.0491	.1757	.3877			.3058			.1340
.050		.1601		.1815	.1806	.2102			.1392
.100									
.153	.1091								
.177			.1123						
.200		.1107		.1342					
.299	.0770								
.300			.1062	.1082	.1595	.1384	.1291		
.302		.0945							
.303					.1151				
.428			.1162						
.444	.0658								
.487			.1096						
.500					.0979	.1630	.1231		
.559		.0745							
.590	.0501								
.600			.0832	.0746			.1141		
.700		.0707	.0742	.0597	.0506				
.736	.0370								
.800			.0346	.0426			.1145		
.850			.0512	.0595					
.900	.0232	.0427	.0540	.0475	.0530				.1071

(CTKL13)

AEDC VA332 CH4B 01 ORB. BOTTOM SURFACE WING

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0462	.0232	.2639	.1967	.1965	.0407	.0840	.0517	.0323
.002			.3301	.4592	.1523	.1498			
.003			.4729	.4125	.1353	.1442			
.004			.3613	.3135	.1183	.1086			
.005				.2863					
.006									
.007									
.025	.0481	.1584	.3573	.2141	.2063	.1914	.1179		
.050		.1622					.1217		
.100	.1174								
.153			.1117						
.177		.1120		.1506					
.200			.1024	.1097	.1164	.1667	.1765		
.299	.0839	.0958							
.300				.1180					
.302									
.303				.1373					
.428	.0746		.1269		.1078	.1067	.1450		
.444									
.487		.0783							
.500									
.559									
.590	.0567		.0844	.0739		.0585			
.600		.0717	.0719	.0665	.0587		.0802		
.700				.0384	.0493				
.736	.0645		.0589	.0707					
.800			.0547	.0625			.0703		
.850		.0481	.0584						
.900	.0274								

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0465	.0240	.2277	.1811	.1828	.0334	.0708	.0439	.0265
.002			.2864	.4652	.1348	.1262			
.003			.4729	.4125	.1378	.1348			
.004			.3613	.3135	.1183	.1086			
.005				.2863					
.006									
.007									
.025	.0489	.1472	.3158	.2689					



DATE 23 JAN 75
 TABULATED DATA LISTING FOR CH4B (AEDC VA352)
 AEDC VA352 CH4B O1 ORB. BOTTOM SURFACE WING
 (CTKL13)

MACH (1) = 8.000 ALPHA (3) = 40.000											
SECTION (1) BOTTOM SURF. WING			DEPENDENT VARIABLE HU/HO								
2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9930
X/C											
.050											
.100				.1567		.2285	.2103	.1960		.1019	
.153										.1079	
.177					.1054						
.200				.1124		.1510					
.299			.0940								
.300					.0982	.1066		.1271	.1390	.1272	
.302				.0985			.1217				
.303						.1239					
.428											
.444		.0811									
.487					.1357		.1165	.1156		.1091	
.500				.0790							
.559											
.590		.0656			.0869	.0740					
.600				.0757	.0753	.0698	.0638		.0607	.0738	
.700											
.736		.0755									
.800						.0416	.0524				
.850						.0675	.0781				
.900		.0317		.0511	.0617	.0646	.0724			.0768	

PARAMETRIC DATA

BETA = .000 RNL = 1.000
B-FLAP = .000 ELEVON = .000
HAW/HT = .000

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/H0

2Y/B .4000 .6000 .8000

X/C
.050 .0267 .0937 .1092
.200 .0033 .0128 .0112
.600 .0006 .0165 .0080
.800 .0005 .0061 .0061
.900 .0018 .0063 .0063
.950 .0020 .0038 .0115

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/H0

2Y/B .4000 .6000 .8000

X/C
.050 .0207 .0853 .0794
.200 .0031 .0119 .0096
.600 .0008 .0203 .0051
.800 .0008 .0041 .0041
.900 .0022 .0066 .0066
.950 .0028 .0041 .0101

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/H0

2Y/B .4000 .6000 .8000

X/C
.050 .0147 .0695 .0593
.200 .0022 .0094 .0069
.600 .0017 .0544 .0014
.800 .0011 .0013 .0013
.900 .0021 .0040 .0040
.950 .0028 .0047 .0081



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTKV13) (15 JAN 75)

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
S.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0247 .0199 .0212 .0145
.010 .0159 .0143 .0158 .0166
.300 .0068 .0071 .0110 .0160
.500 .0047 .0092 .0152 .0126
.700 .0022 .0015 .0034 .0067
.900 .0026 .0035 .0072

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0242 .0221 .0408 .0307
.010 .0254
.100 .0156 .0115 .0164 .0313
.300 .0063 .0043 .0120 .0278
.500 .0019 .0019 .0092 .0222 .0181
.700 .0019 .0021 .0028 .0132
.900 .0026 .0039 .0141

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0107 .0121 .0282 .0435
.010 .0230
.100 .0131 .0054 .0082 .0186
.300 .0072 .0027 .0036 .0117
.500 .0026 .0026 .0030 .0083 .0094
.700 .0026 .0015 .0019 .0047
.900 .0035 .0048 .0060

REFERENCE DATA

SREF = .6238 SQ.FT. XHRF = .0000 IN.
 LREF = 22.5603 IN. YHRF = .0000 IN.
 BREF = 16.3919 IN. ZHRF = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z
 6.125 .0512 .0220 .0003 .0008 .0029

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z
 6.125 .0468 .0197 .0002 .0009 .0032

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z
 6.125 .0445 .0185 .0004 .0019 .0031

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000



DATE 23 JAN 75

(CTRM13) (15 JAN 75)

AEDC VA352 CH4B 01 CRB. CMS FOD

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) CMS FOD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0050	.0173	.0194	.0170	.0052	.0048	.0036
8.540		.0207					
8.650		.0141					
8.727		.0336			.0000	.0050	
8.750				.0241			
8.855			.0104				
8.942				.0089			
8.978			.0032				
9.056			.0047				
9.118				.0066			
9.222				.0041			
9.275							

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) CMS FOD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0019	.0022	.0036	.0063	.0018	.0022	.0048
8.540		.0031					
8.650		.0039					
8.727		.0057					
8.750				.0068		.0000	.0030
8.855			.0046				
8.942				.0044			
8.978			.0076				
9.056			.0031				
9.118				.0035			
9.222				.0029			
9.275							

AEDC VA352 OH48 O1 CR2. OMS FOD (CTKM13)
 MACH (1) = 8.000 ALPHA (3) = 40.000 T1 = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) OMS FOD DEPENDENT VARIABLE HU/HG

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0020	.0026	.0037	.0039	.0015	.0049	.0078
8.540		.0039					
8.650		.0061					
8.727			.0055				
8.750					.0070	.0068	
8.855				.0051			
8.942		.0081					
8.978				.0058			
9.056			.0129				
9.118			.0053				
9.222				.0061			
9.275				.0063			



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTKY13) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. FUSELAGE Y=0.875

PARAMETRIC DATA

BETA = .000 RV/L = 1.000
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1034 .0885 .0722 .0657 .0556 .0403 .0348

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1196 .1016 .0857 .0763 .0625 .0641 .0497 .0435

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1330 .1105 .0975 .0876 .0717 .0735 .0563 .0542

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000
PHI
62.000 .0026 .0007 .0011 .0001 .0009

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000
PHI
62.000 .0020 .0005 .0007 .0012 .0007

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000
PHI
62.000 .0017 .0005 .0004 .0007 .0018

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
B.FLAP = .000 ELEVON = .000
HAW/HT = .000



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKF13) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. FUSELAGE Z=7.525

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z 7.525 .0147 .0121 .0359 .0133 .0053 .0011

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z 7.525 .0152 .0159 .0257 .0066 .0038 .0007

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z 7.525 .0148 .0216 .0200 .0074 .0014 .0009

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 31 = 1.994 HREF = .035

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

FHI

.0000 .0000 .4196 .4197 .2812 .2392 .2120 .1817 .1537 .0000 .1313 .1235 .1148 .1351
 19.000 .2320 .2181 .0983 .0724 .0311 .0166 .0090 .0139 .0080
 14.000 .0689 .0405 .0000 .0894 .0874
 20.000 .1117 .1047 .0966 .0897 .1195 .1084 .1233 .0874 .0565
 22.000 .0079 .0142 .0318 .0437 .1034 .0528
 24.000 .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750
 26.000 .0046 .0811 .0802 .0739 .0747 .0681 .0767 .0750 .0730 .0707 .0655 .0624

X/L

FHI

.0000 .1117 .1047 .0966 .0897 .1195 .1084 .1233 .0874 .0565 .0052 .0065 .0071 .0141 .0204
 10.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 20.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 25.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 30.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 35.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 40.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 45.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 50.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 55.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 60.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 65.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 70.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 75.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 80.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 85.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 90.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 95.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 100.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

X/L

FHI

.000
 11.500



TABULATED DATA LISTING FOR OH48 (AEDC VA352)

(CTK814)

AEDC VA352 OH48 O1 ORB. FUSELAGE

DATE 23 JAN 75

MACH (1) = 0.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

.0738

.0782

.0867

.1042

.1188

.1164

.1104

.0409

.0209

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X/L

PHI

AEDC VA352 CH48 O1 ORB. FUSELAGE (CTK814)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.0655	.0680	.0674	.0692	.0662	.0612	.0730	.0000	.0789	.0000	.0630
21.500			.0684								
39.000						.0042	.0813				.0812
52.500											
55.000			.0014								
65.000			.0019								
68.000						.0017					
100.000			.0027								
108.000			.0020			.0020					
112.000						.0026					
113.000							.0040				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0900 .1000

PHI

.000	.0000	.4343	.4162	.2997	.2556	.2279	.2008	.1726	.0000	.1490	.1417	.1305
10.000							.2506					.1530
14.000												
20.000							.2340					.1562
22.000												.1615
24.500							.0930					.0713
35.000							.0673					
39.000							.0233					
42.500							.0125					
46.000								.0466				
60.000									.0082			.0102
119.000			.0774	.0290								.0093
180.000												

X/L

PHI

.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1780	.1800	.1820
.1281	.1168	.1115	.1023	.1359	.1226	.1355	.0918	.0050	.1017	.1032		
10.000												
20.000												
25.500												
40.000												
45.500												
131.200								.0050				
145.400												.0082
146.200												

.0105

DATE 23 JAN 75

PAGE 181

TABULATED DATA LISTING FOR OH48 (AEDC VA352)

(CTKB14)

AEDC VA352 OH48 O1 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

DEPENDENT VARIABLE MU/HO

SECTION (1) CRBITER FUSELAGE

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI															
156.000															
159.200															
170.700															
171.900															
173.400															
189.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750

.0101 .0143

.0041

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SECTION : WREITER FUSELAGE

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(CTKL14) (15 JAN 75)

AEDC VA352 CH48 Q1 ORB. BOTTOM SURFACE WING

REFERENCE DATA									
SREF =	.8238	SQ.FT.	XMRP =	.0000	IN.	BETA =	.000	RN/L =	2.000
LREF =	22.5803	IN.	YMRP =	.0000	IN.	B.FLAP =	.000	ELEVON =	.000
BREF =	16.3919	IN.	ZMRP =	.0000	IN.	HAW/HT =	.000		
SCALE =	.0175	SCALE							
MACH (1) =	8.000	ALPHA (1) =	30.000	TI =	95.550	Q1 =	1.994	HREF =	.035
SECTION (1) BOTTOM SURF. WING									
DEPENDENT VARIABLE HU/HQ									
2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000 .9500 .9660 .9930
X/C									
.001		.0433	.0237	.2952	.1660	.2128	.0513		.0981 .0579 .0429
.002				.2646	.1842				
.003				.3471	.1805				
.004				.3846	.1728				
.005				.3207	.1616				
.006				.3261	.1444				
.007				.2647	.1376				
.025	.0472		.1689	.3835		.3128			.1322
.050			.1595		.1813	.2258	.2241		.1382
.100	.1089								
.153				.1100					
.177			.1088						
.200	.0778								
.299				.1097	.1145	.3329	.1957	.1512	
.300									
.302			.0907						
.303					.1200				
.428				.1156					
.444	.0646								
.487				.1070					
.500					.0975	.3171		.1839	
.559			.0764						
.590	.0494								
.600			.0825	.0734					
.700			.0723	.0770	.0541	.0525	.1501	.1423	
.736	.0735				.0314	.0379			
.800					.0510	.0599			
.850					.0467	.0533			
.900	.0425		.0486	.0568					.1332

PARAMETRIC DATA

DATE 23 JAN 73

INDICATED AIRSPEED (KNOTS)

MACH (1) = 8.000 ALPHA (2) = 35.000 AEDC VA352 OH48 O1 ORB. BOTTOM SURFACE WING (CTKL14)

T1 = 95.550 Q1 = 1.994 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE MU/HD

21/8	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
x/c												

.001	.0440	.0235	.2598	.1950	.1860	.0401	.0990	.0710	.0519			
.002			.3241	.1513								
.003			.4607	.1600								
.004			.4866	.1537								
.005			.4233	.1588								
.006			.3779	.1400								
.007			.3139	.1391								
.025	.0495		.1570	.3461	.2728							
.050			.1626	.2128	.2051	.2622		.1483				
.100								.1670				
.153	.1112											
.177												
.200			.1094									
.299	.0831			.1516								
.300												
.302			.1048	.1166	.1685	.3638	.2786					
.303			.0967									
.428				.1404								
.444	.0725											
.487			.1336									
.500				.1104	.1085		.2439					
.559	.0602		.0867									
.590												
.600			.0882	.0756					.0755			
.700			.0847	.0789	.0655	.0604				.1592		
.736	.0936											
.800				.0361	.0474							
.850				.0956	.0723							
.900	.0562		.0622	.0703	.0583	.0669				.1002		



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTK014) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. UPPER SURFACE WING

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

ZY/B .4000 .6000 .8000

X/C

.050 .0275 .0935 .1081
 .200 .0031 .0121 .0598
 .600 .0004 .0312 .0101
 .800 .0006 .0006 .0081
 .900 .0018 .0018 .0141
 .950 .0026 .0040 .0189

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

ZY/B .4000 .6000 .8000

X/C

.050 .0200 .0868 .0736
 .200 .0025 .0116 .0076
 .600 .0003 .0153 .0064
 .800 .0008 .0008 .0064
 .900 .0022 .0022 .0097
 .950 .0033 .0055 .0137

(CTKV14) (15 JAN 75)

AEDC VA332 OR4B O1 ORB. LEFT VERTICAL TAIL

REFERENCE DATA

PARAMETRIC DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN. BETA = .000 RN/L = 2.000
LREF = 22.5803 IN. YMRP = .0000 IN. B.FLAP = .000 ELEVON = .000
BREF = 16.3919 IN. ZMRP = .0000 IN. MAW/HT = .000
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE MU/HO

Z/BO .1590 .2990 .5320 .7650 .9050

X/C
.000 .0131 .0118 .0203 .0279
.010 .0149 .0092 .0095 .0167
.300 .0083 .0059 .0078 .0133
.500 .0051 .0085 .0122 .0141
.700 .0030 .0020 .0038 .0084
.900 .0020 .0050 .0087

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE MU/HO

Z/BO .1590 .2990 .5320 .7650 .9050

X/C
.000 .0201 .0304 .0500 .0401
.010 .0234
.100 .0153 .0096 .0287 .0268
.300 .0077 .0050 .0208 .0269
.500 .0025 .0210 .0290 .0153
.700 .0019 .0020 .0064 .0126
.900 .0030 .0064 .0107



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKR14) (15 JAN 75)

AEDC VA352 CH4B 01 CRB. RCS CENTER

REFERENCE DATA
SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE
MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0510 .0225 .0004 .0019 .0017

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0466 .0208 .0003 .0008 .0041

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) CMS F00

DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0059 .0281 .0365 .0293 .0058 .0050 .0036
 8.540 .0372
 8.650 .0269
 8.727 .0492
 8.750
 8.855 .0288
 8.942 .0197
 8.978 .0128
 9.056 .0078
 9.118 .0057
 9.222 .0049
 9.275 .0037

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) CMS F00

DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0061 .0045 .0039 .0082 .0036 .0033 .0047
 8.540 .0074
 8.650 .0113
 8.727 .0065
 8.750
 8.855 .0060
 8.942 .0075
 8.978 .0081
 9.056 .0126
 9.118 .0047
 9.222 .0035
 9.275 .0038



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKY14) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. FUSELAGE Y=0.875

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
Y .875 .1042 .0867 .0738 .0638 .0529 .0602 .0566 .0684

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
Y .875 .1194 .1009 .0867 .0749 .0621 .0768 .0830 .1038

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0025 .0007 .0009 .0008 .0014

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0019 .0005 .0006 .0005 .0008

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .000



TABULATED DATA LISTING FOR OH48 (AEDC VA352)

DATE 23 JAN 75

(CTKF14) (15 JAN 75)

AEDC VA352 OH48 O1 CRB. FUSELAGE Z=7,525

REFERENCE DATA

SREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 Q1 = 1.994 HREF = .035

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z
 7.525 .0147 .0107 .0315 .0198 .0065 .0021

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 Q1 = 1.994 HREF = .035

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z
 7.525 .0145 .0169 .0313 .0118 .0045 .0010

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

DATE 23 JAN 75

TABULATED DATA LISTING FOR ORB. FUSELAGE

AEDC VA352 OH48 01 ORB. FUSELAGE

(CTKB15) (15 JAN 75)

REFERENCE DATA

SRF = .8238 SQ.FT. XMRP = .0000 IN.
 LRF = 22.5803 IN. YMRP = .0000 IN.
 BRP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 Q1 = 3.955 HREF = .049

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

DEPENDENT VARIABLE MU/HO

SECTION (1) ORBITER FUSELAGE

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

PHI

.0000 .0000 .4299 .4211 .2758 .2272 .1929 .1655 .1381 .0900 .1149 .1090 .0998
 10.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 14.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 20.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 22.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 24.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 35.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 39.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 42.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 48.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 60.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 119.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 180.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

X/L

PHI

.0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657 .0657
 10.000 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 20.000 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 25.000 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 40.000 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 45.000 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 131.200 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 145.400 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 146.200 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 156.000 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 159.200 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 170.700 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 171.900 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 173.400 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 180.000 .0948 .0894 .0813 .0730 .0731 .0718 .0704 .0684 .0688 .0662 .0657 .0657 .0657 .0657
 X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750
 PHI .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736
 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 11.500 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736 .0736



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKB15)

AEDC VA352 CH4B O1 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI														
12.000														
21.500														
23.000														
24.000														
31.500				.0891										
34.000				.1020										
35.000				.0989										
40.000				.1013										
45.000														
51.000				.0404										
57.500														
59.500														
61.000														
65.000														
70.000														
96.500				.0215										
105.000														
106.000														
135.000														
140.000				.0140										
141.400														
151.000				.0355										
180.000														

X/L .5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

PHI														
.0000														
21.500				.0497										
63.000				.0514										
64.000				.0467										
65.000														
65.500				.0021										
105.000				.0216										
111.000														
112.000				.0275										
113.000				.0251										
116.000														
135.000				.0029										
149.000														
180.000				.0096										

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

FH1

.000 .1076 .1120 .1128 .1150 .1063 .1156 .1137 .0000 .1134 .0000 .1200
 21.500 .1099
 39.000
 52.500 .0034 .0092 .1254 .1156
 55.000 .0034 .0049
 65.000 .0075
 68.000 .0056
 100.000 .0055
 108.000 .0076 .0030
 112.000 .0034
 113.000

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .9000 .9050 .9100 .9200 .9250 .9300 .9400 .9500 .9600 .9700 .9750 .9800 .9900 .1000

FH1

.0000 .4163 .4224 .2971 .2456 .2127 .1837 .1577 .0000 .1333 .1256 .1159
 10.000 .2394
 14.000 .2263
 20.000 .1012
 24.500 .0739 .0513
 35.000 .0307
 39.000 .0166 .0089
 42.500 .0139
 48.000 .0139 .0084
 60.000 .0748
 119.000
 180.000

X/L

.1200 .1250 .1300 .1400 .1500 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

FH1

.000 .1139 .1041 .0976 .0886 .0891 .0885 .0878
 10.000 .1172
 20.000 .1082
 25.500 .1262
 40.000 .0900
 45.500 .0572
 131.200 .0051 .0095
 145.400 .0081
 146.200



DATE 03 JAN 75

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PFI														.0183	.0240
156.000												.0125			
159.200													.0341		
170.700															
171.900						.0442				.0220					
173.400		.0094			.0203		.0535				.1028				
180.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PFI															
.000		.0863		.0823	.0000	.0793	.0766	.0682	.0769	.0781	.0762	.0759	.0742	.0703	.0677
11.500				.0893				.0767							
12.000															
21.500								.0875							
23.000															
24.000				.1062											
31.500				.1192											
34.000								.0984							
35.000				.1147											
40.000				.1119				.0959							
45.000								.0919							
51.000															
57.500				.0412				.0108							
59.500												.0026			
61.000								.0234							
65.000								.0251							
70.000								.0205							
96.500				.0213								.0108			
105.000															
106.000								.0148							
135.000								.0014				.0009			
140.000				.0067											
141.400															
151.000	.0059		.0196												
180.000												.0084			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PFI															
.000		.0662	.0692	.0714	.0767	.0818	.0880	.0988	.1126	.1251	.1447	.1620	.1712	.2077	.2249
21.500		.0708												.2077	.2122
63.000						.0703									
64.000															
65.000									.0009						.0006

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

105.000	.0227				.0458				.0087			.0041			
111.000					.0392									.0029	
112.000					.0324										
113.000															
116.000															
135.000	.0022				.0043				.0054		.0201				
149.000											.0031				
160.000	.0069				.0048				.0046				.0033		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
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PHI

.000	.2343	.2209	.2058	.1965	.1721	.1440	.1707	.0000	.1669	.0000	.1681	
21.500		.2027										
38.000							.1676				.1440	
52.500						.0070						
55.000			.0027									
65.000			.0030									
68.000				.0029								
100.000		.0037										
108.000		.0042			.0036							
112.000						.0025						
113.000							.0035					

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	.0000	.4025	.4172	.3001		.2592	.2261	.2041	.1737	.0000	.1480	.1443	.1330	.1533	
10.000															
14.000								.2557							
20.000								.2392						.1589	
22.000															
24.500								.0953						.1636	
35.000									.0686					.0710	
39.000															
42.500												.0482			
48.000								.0240							
60.000								.0120			.0088			.0096	
115.000			.0874	.0277										.0118	
160.000															

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------



$$\text{MACH (1)} = 8.000 \quad \text{ALPHA (3)} = 35.000$$

SECTION / 11C8BITER FUSELAGE

[illegible]

(CTK815)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITTER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000	.0935	.1008	.1147	.1290	.1512	.1794	.2028	.2218	.2414	.2608	.2718	.2648	.2917	.2942	
21.500	.0948				.1413				.2574				.2813		
63.000	.0954														
64.000									.0018						
65.000													.0005		
65.500	.0264				.0007				.0060				.0015		.0014
105.000					.0203										
111.000															
112.000					.0331										
113.000					.0329										
116.000											.0060				
135.000	.0014				.0031				.0057						
149.000											.0055				
180.000	.0022				.0027				.0045				.0052		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.2800	.2543	.2376	.2280	.2027	.1630	.1974	.0000	.1959	.0000	.1948				
21.500		.2333													
39.000							.1865					.1630			
52.500						.0090									
55.000			.0015												
65.000			.0014												
68.000					.0055										
100.000			.0013												
108.000			.0013												
112.000					.0024		.0057								
113.000								.0086							



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTKL15) (15 JAN 75)

AEDC VA352 OH4B 01 CRB. BOTTOM SURFACE WING

REFERENCE DATA				PARAMETRIC DATA			
SREF =	.8236 SQ.FT.	XMRP =	.0000 IN.	BETA =	.000	BN/L =	3.720
LREF =	22.5803 IN.	YMRP =	.0000 IN.	B.FLAP =	.000	ELEVON =	.000
BREF =	16.3919 IN.	ZMRP =	.0000 IN.	HAW/HT =	.000		
SCALE =	.0175 SCALE						
MACH (1) =	0.000	ALPHA (1) =	25.000	TI =	97.867	QI =	3.955
						HREF =	.049
SECTION (1) BOTTOM SURF. WING				DEPENDENT VARIABLE HU/HO			
ZY/B							
.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500
						.9000	.9500
						.9660	.9930
X/C							
.001	.0415	.0247		.3102	.1868	.2641	.0558
.002				.2312	.2019		
.003				.3605	.1946		
.004				.2999	.1799		
.005				.2844	.1604		
.006				.2491	.1329		
.007				.2032	.1195		
.025	.0473		.1825	.4066		.3784	
.050			.1589		.1496	.3259	.2100
.100							
.153	.0946			.1147			
.177							
.200		.1017		.0919			
.299	.0647						
.300							
.302		.0848		.1376	.1588	.2311	.1211
.303							.1189
.428						.3924	
.444	.0579			.3372			
.487			.4078				
.500		.0860				.3967	.3152
.559							.1126
.590	.0475						
.600			.2012	.1056			.1277
.700		.1057	.2514	.2432		.1615	
.736	.1023						.1342
.800			.1424	.1620			
.850			.1800	.1889			
.900	.0746	.0875	.1532	.1530	.1547		.1258

(CTRL15)

AEDC VA352 OH4B 01 ORB. BOTTOM SURFACE WING

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/H0

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0418	.0236	.2635	.1694	.2890	.0540		.1013	.0711	.0485	
.002				.2693		.1921						
.003				.3536		.1969						
.004				.3957		.2082						
.005				.3257		.2050						
.006				.3417		.2181						
.007				.2759		.2188						
.025	.0513		.1698	.3856		.4569						
.050			.1641		.1906	.4368	.3188		.1406			
.100	.1022								.1528			
.153												
.177				.1180								
.200			.1187		.1590							
.299	.0749											
.300				.1296	.1355	.4276	.3496	.2735				
.302			.1088									
.303						.1610						
.428					.1484							
.444	.0706			.2825		.2480	.4330	.2211				
.487												
.500			.1774									
.559												
.590	.1066			.1963	.1181							
.600			.1983	.2143	.2097	.1827	.1854		.1860			
.700	.2527											
.736												
.800					.1376	.1871						
.850					.1853	.2243						
.900	.1096		.1595	.1529	.1639	.1859		.1730				

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE HU/H0

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0434	.0248	.2655	.2018	.1901	.0466		.1336	.0836	.0624	
.002				.3197		.2009						
.003				.4880		.2320						
.004				.5097		.2446						
.005				.4461		.2691						
.006				.4228		.2512						
.007				.3599		.2614						
.025	.0310		.1684	.3649		.2916						



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKL15)

AEDC VA352 CH4B 01 CRB. BOTTOM SURFACE WING

MACH (1) = 8.000 ALPHA (3) = 35.000

DEPENDENT VARIABLE HU/HO

SECTION (1) BOTTOM SURF. WING

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050				.1938		.2591	.2542	.4496		.1850		
.100										.2034		
.153	.1117											
.177			.1574									
.200				.1690	.2010							
.299	.0844											
.300					.1850	.1650	.4571	.4653	.3282			
.302				.1881			.1867					
.303					.2205							
.428												
.444	.1222											
.487			.3427				.1775	.4078	.2887			
.503				.3022								
.559	.2272											
.600			.2631	.1965					.1850			
.700			.2732	.2594	.2298	.1177			.2222			
.736	.3536											
.800				.1611	.1865							
.850				.2096	.2534							
.900	.1247		.1992	.1854	.1855	.2152				.1929		

PARAMETRIC DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000

X/C
 .050 .0381 .1041 .1300
 .200 .0033 .0120 .0113
 .600 .0008 .0381 .0103
 .800 .0027 .0093
 .900 .0050 .0182
 .950 .0039 .0090 .0268

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000

X/C
 .050 .0261 .0960 .1076
 .200 .0027 .0108 .0090
 .600 .0005 .0289 .0127
 .800 .0011 .0140
 .900 .0041 .0235
 .950 .0044 .0091 .0294

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000

X/C
 .050 .0195 .0890 .0837
 .200 .0038 .0114 .0075
 .600 .0008 .0183 .0074
 .800 .0008 .0085
 .900 .0035 .0107
 .950 .0043 .0083 .0195



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTKV15) (15 JAN 75)

AEDC VA352 OH4B 01 CRB. LEFT VERTICAL TAIL

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) LEFT VERTICAL TAIL

Z/8V .1590 .2990 .5320 .7650 .9050

X/C
.000 .0948 .0512 .0535 .0923
.010 .0202 .0161 .0201 .0362
.100 .0056 .0100 .0149 .0242
.300 .0103 .0137 .0184 .0240
.500 .0035 .0048 .0058 .0086
.700 .0051 .0076 .0090

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) LEFT VERTICAL TAIL

Z/8V .1590 .2990 .5320 .7650 .9050

X/C
.000 .0141 .0248 .0449 .0488
.010 .0151 .0095 .0261 .0300
.100 .0089 .0061 .0213 .0294
.300 .0060 .0151 .0273 .0192
.500 .0037 .0030 .0048 .0121
.700 .0038 .0069 .0102

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) LEFT VERTICAL TAIL

Z/8V .1590 .2990 .5320 .7650 .9050

X/C
.000 .0157 .0297 .0540 .0448
.010 .0165 .0100 .0220 .0346
.100 .0077 .0091 .0208 .0267
.300 .0060 .0213 .0236 .0190

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 T1 = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0536 .0261 .0014 .0049 .0075

MACH (1) = 8.000 ALPHA (2) = 30.000 T1 = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0513 .0251 .0006 .0030 .0029

MACH (1) = 8.000 ALPHA (3) = 35.000 T1 = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0482 .0224 .0005 .0014 .0055

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .000



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTRM15) (15 JAN 75)

AEDC VA352 CH4B 01 CRB. CHS FOD

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .0238 50.FT. XMRP = .0000 IN.
LREF = 22.5003 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 Q1 = 3.955 HREF = .049

DEPENDENT VARIABLE HU/HQ

SECTION (1) CHS FOD

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z	8.295	.0298	.1128	.0671	.0312	.0342	.0369
	8.540	.0814					.0277
	8.650	.0576					
	8.727	.0634					
	8.750				.0000	.0159	
	8.855		.0290				
	8.942		.0188				
	8.978			.0104			
	9.056		.0051				
	9.118		.0057				
	9.222		.0068				
	9.275		.0046				

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 Q1 = 3.955 HREF = .049

DEPENDENT VARIABLE HU/HQ

SECTION (1) CHS FOD

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z	8.295	.0379	.1019	.0646	.0661	.0093	.0112
	8.540	.1001					.0105
	8.650	.0449					
	8.727	.0708					
	8.750				.0000	.0089	
	8.855		.0233				
	8.942		.0159				
	8.978			.0202			
	9.056		.0126				
	9.118		.0047				
	9.222		.0069				
	9.275		.0045				

(CTKH15)

AEDC VA352 CH4B 01 CRB. CMS PCO

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) CMS PCO DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0064 .0048 .0093 .0290 .0054 .0047 .0040
8.540 .0074
8.650 .0095
8.727 .0139
8.750 .0000 .0049
8.855 .0201
8.942 .0089
8.978 .0116
9.056 .0088
9.118 .0040
9.222 .0026
9.275 .0028



DATE 23 JAN 75

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TABULATED DATA LISTING FOR OH48 (AEDC VA352)

(CTRY13) (15 JAN 75)

AEDC VA352 OH48 O1 ORB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0891 .0728 .0613 .0538 .0467 .0580 .0757 .1099

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1062 .0875 .0760 .0708 .0703 .1340 .2122 .2027

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1220 .1049 .0887 .0948 .1413 .2574 .2813 .2333

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 T1 = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0040 .0017 .0021 .0011 .0034

MACH (1) = 8.000 ALPHA (2) = 30.000 T1 = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0026 .0007 .0011 .0009 .0027

MACH (1) = 8.000 ALPHA (3) = 35.000 T1 = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0017 .0004 .0007 .0018 .0015

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

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AEDC VA352 CH4B 01 ORB. FUSELAGE Z=7.525

(CTKF15) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0137 .0139 .0216 .0434 .0309 .0080

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0148 .0108 .0227 .0458 .0097 .0041

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0148 .0167 .0264 .0203 .0060 .0015

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.500 Q1 = 3.958 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0800 .0900 .1000

FH1
 .0000 .0000 .4195 .4228 .2675 .2441 .2124 .1848 .1570 .0000 .1322 .1272 .1152
 10.000
 14.000 .0000
 20.000 .0000
 22.000 .0000
 24.500 .0000
 35.000 .0000
 39.000 .0000
 42.500 .0000
 48.000 .0000
 60.000 .0000
 119.000 .0000
 180.000 .0000

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1820

FH1
 .0000 .1118 .1058 .0978 .0894 .0906 .0887 .0884
 10.000
 20.000 .0000
 25.500 .0000
 40.000 .0000
 45.500 .0000
 131.200 .0051
 145.400 .0082
 146.200
 156.900
 159.200
 170.700
 171.900
 173.400
 180.000

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FH1
 .0000 .0908 .0821 .0672 .0782 .0759 .0776 .0770 .0744 .0710 .0677
 11.500



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKB16)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 0.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HQ

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0000				.0750			
21.500								.0872							
23.000															
24.000				.1064											
31.500				.0000											
34.000								.0000							
35.000				.0000											
40.000				.0000				.0000							
45.000				.0000				.0000							
51.000				.0000				.0000							
57.500												.0000			
59.500								.0000							
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.500				.0000								.0000			
105.000															
106.000								.0000				.0000			
135.000								.0000				.0000			
140.000				.0066											
141.400															
141.400	.0059						.0195								
151.000				.0000				.0000				.0000			
180.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.0000	.0671	.0668	.0710	.0750	.0801	.0882	.0985	.1117	.1226	.1413	.1624	.1715	.2108	.2295	
21.500	.0694				.0720				.1316				.2112		
63.000	.0000														
64.000									.0000				.0000		
65.000					.0000										
65.500					.0000								.0000		
105.000	.0000				.0000				.0000				.0000		.0000
111.000															
112.000					.0000										
113.000					.0000										
116.000					.0000						.0000				
135.000	.0000				.0000				.0000						
149.000					.0000				.0000						
180.000	.0000				.0000				.0000				.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

FW:

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
FW1												
.000	.2276	.2184	.2114	.1937	.1749	.0000	.1714	.0000	.1659	.0000	.1681	.0000
21.500			.2112				.0000					.0000
39.000						.0000						
52.500						.0000						
55.000			.0000									
65.000			.0000									
68.000			.0000			.0000						
100.000			.0000			.0000						
108.500			.0000			.0000						
112.000							.0000					
113.000								.0000				



TABULATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

AEDC VA352 CH48 O1 ORB. UPPER SURFACE WING

(CTKU16) (15 JAN 75)

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELECON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.500 ZI = 3.958 HREF = .049

DEPENDENT VARIABLE HU/HO

SECTION (1) UPPER SURFACE WING

ZY/B .4000 .6000 .8000

X/C

.050 .0262 .0946 .1150
.200 .0043 .0117 .0091
.600 .0005 .0339 .0122
.800 .0010 .0145
.900 .0037 .0232
.950 .0049 .0084 .0310

(CTRY16) (15 JAN 75)

AEDC VA352 OH4B O1 ORB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000

Y1

= 97.500 Q1

= 3.958

HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.675 .1064 .0872 .0750 .0694 .0720 .1316 .2112 .2112

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .000



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH48 (AEDC VA352)

(CTKB17) (15 JAN 75)

AEDC VA352 OH48 O1 ORB. FUSELAGE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = 10.000 ELEVON = 5.000
HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.700 QI = 3.349 WREF = .049

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HD

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

PHI .0000 .0050 .0200 .4232 .2919 .2448 .2109 .1856 .1578 .0000 .1336 .1273 .1161 .1349 .1420

10.000 14.000 20.000 22.000 24.500 35.000 39.000 42.500 48.000 60.000 119.000 180.000 .0517 .0095 .0138 .0088 .0746 .0138 .0088

X/L .1200 .1250 .1300 .1400 .1500 .1550 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

PHI .1131 .1031 .0979 .0892 .1201 .1080 .1244 .0899 .0571 .0096 .0677 .0885 .0093 .0176 .0238

10.000 20.000 25.500 40.000 45.500 131.200 145.400 146.200 156.000 159.200 170.700 171.900 173.400 180.000 .0217 .0220 .0547 .4500 .4750 .0238

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI .0870 .0092 .0203 .0448 .0549 .0689 .0764 .0780 .0824 .0000 .0766 .0776 .0762 .0744 .0715 .0684

(CTK817)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE MU/HQ

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.000

151.000

180.000

.0799

.0880

.1068

.1200

.0999

.1157

.0960

.0945

.0103

.0236

.0246

.0205

.0148

.0013

.0034

.0129

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.0030

.0030

.0030

.0030

X/L

PHI

.000

21.500

63.000

64.000

65.000

65.500

105.000

111.000

112.000

113.000

116.000

135.000

149.000

180.000

.0500

.0750

.9000

.9250

.9500

.9750

1.0000

1.0130

1.0140

1.0250

1.0380

1.0500

.0686

.0708

.0007

.0686

.0708

.0007

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.0686

.0708

PHI:



MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

FHI

156.000
159.200
170.700
171.900
173.400
180.000

.0177 .0294 .0588 .0695 .0764 .0866 .0944 .10206

X/L .1830 .1900 .1910 .2000 .2090 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FHI

.090
11.500
12.000
21.500
23.000
24.000
31.500
34.000
35.000
40.000
45.000
51.000
57.500
59.500
61.000
65.000
70.000
96.500
105.000
106.000
135.000
140.000
141.400
151.000
180.000

.1024 .0972 .0900 .0976 .0933 .0850 .0943 .0884 .0896 .0901 .0910 .0874 .0884

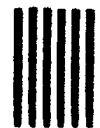
.1049 .1212 .1358 .1151 .1124 .1024 .0991 .0210 .0225 .0216 .0149 .0211 .0173 .0007 .0017 .0018 .0006

X/L .5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8290

FHI

.0936 .1015 .1143 .1267 .1516 .1817 .1985 .2262 .2403 .2591 .2727 .2700 .2903 .2969

.0934 .0904 .0085 .0149 .0136 .0021 .0016 .0018 .0007 .0006



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTK817)

AEDC VA352 OH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0276				.0205				.0060				.0017		.0016
111.000					.0327										
112.000					.0330										
113.000										.0060					
116.000					.0032				.0061						
135.000	.0015									.0054					
149.000					.0028				.0042				.0053		
180.000	.0022														
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.2789	.2512	.2391	.2261	.2038	.3678	.3987	.5010		.4498	.4402	.4289			
21.500			.2305				.3230						.3678		
39.000						.0051									
52.500			.0019												
55.000			.0017												
65.000						.0046									
68.000															
100.000			.0016												
108.000			.0015			.0028	.0026								
112.000															
113.000									.0038						

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.700 Q1 = 3.949 MREF = .049

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE MU/HQ

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9500 .9660 .9930

X/Z

.001	.0419	.0245	.2857	.1690	.2885	.0543	.0992	.0697	.0604
.002				.2690		.1935			
.003				.3562		.1992			
.004				.3936		.2102			
.005				.3256		.2071			
.006				.3420		.2184			
.007				.2784		.2172			
.025		.1648	.3883		.4596				
.050		.1680		.1909	.4401	.3176	.1391		
.100							.1492		
.153	.1014								
.177			.1180						
.200	.1179			.1547					
.299	.0717								
.300			.1293	.1381	.4245	.3476	.2776		
.302	.1101								
.303				.1533					
.428					.1438				
.444	.0703		.2939						
.487				.2569	.4368		.2221		
.500	.1812								
.559									
.590	.1054								
.600			.2103	.1254			.1821		
.700	.2047	.2377	.2100	.1801				.2347	
.736	.2509								
.800			.2052	.2651					
.850			.2687	.3122					
.900	.1405	.2316	.2339	.2407	.2661			.2242	



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKL17)

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 97.700 Q1 = 3.949 HREF = .049

AEDC VA352 CH4B 01 ORB. BOTTOM SURFACE WING

DEPENDENT VARIABLE HU/HO

SECTION (1) BOTTOM SURF. WING

27/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0434	.0241	.2657	.2010	.1993	.0480	.1259	.9823	.0741
.002			.3202	.4893	.2322	.2003			
.003			.5109	.2439	.2703				
.004			.4531	.2512	.2591				
.005			.4280						
.006			.3620	.2928					
.007									
.025	.1661	.3694		.2623	.2483	.4476	.1880	.2037	
.050	.1930								
.100									
.153	.1126								
.177			.1592	.1984					
.200	.1715								
.299	.0850								
.300			.1867	.1658	.2896	.4663	.3371		
.302	.1923								
.303					.1763				
.428			.2272						
.444	.1221								
.487			.3518		.1815	.1944	.3005		
.500									
.559	.3041								
.590	.2333								
.600			.2664	.1957			.1519		
.700	.2707	.2608	.2316	.0966			.3001		
.736	.3528								
.800			.2164	.1260					
.850			.2843	.1796					
.900	.2669	.2458	.2615	.1668			.2353		

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000 DEFENDENT VARIABLE HU/HO

X/C

.050 .0028 .0703 .1648
 .200 .0308 .1054 .1680
 .600 .1014 .2509 .1179
 .800 .1405 .1101
 .900 .0419 .1812
 .950 .0717 .0245 .2047

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000 DEFENDENT VARIABLE HU/HO

X/C

.050 .0019 .1221 .1661
 .200 .0509 .2333 .1930
 .600 .1126 .3528 .1715
 .800 .1577 .1923
 .900 .0434 .3041
 .950 .0850 .0241 .2707

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKV17) (15 JAN 75)

AEDC VA352 CH4B O1 ORB. LEFT VERTICAL TAIL

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B. FLAP = 10.000 ELEVON = 5.000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0136 .0237 .0428 .0484
.010 .0319
.100 .0156 .0098 .0254 .0300
.300 .0090 .0061 .0198 .0288
.500 .0059 .0095 .0271 .0191
.700 .0038 .0028 .0049 .0122
.900 .0035 .0070 .0107

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0151 .0294 .0538 .0448
.010 .0279
.100 .0162 .0104 .0225 .0352
.300 .0080 .0087 .0205 .0290
.500 .0064 .0216 .0236 .0192
.700 .0019 .0024 .0087 .0104
.900 .0040 .0094 .0097

DATE 23 JAN 75

TABULATED DATA LISTING FOR CASE 1000

AEDC VA352 CH4B 01 CRB. RCS CENTER

(CTKR17) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 97.700 Q1 = 3.949 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0517 .0246 .0006 .0031 .0034

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 97.700 Q1 = 3.949 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0478 .0225 .0006 .0017 .0046

PARAMETRIC DATA

BETA = .000 RN/L = 3.729
B.FLAP = 10.000 ELEVON = 5.000
HAW/HT = .000



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTRM17) (15 JAN 75)

AEDC VA352 CH4B O1 CRB. CMS POD

REFERENCE DATA
 XREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAF = 10.000 ELEVON = 5.000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) CMS POD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z	8.295	.0375	.1211	.0713	.0754	.0113	.0114 .0097
8.540		.0942					
8.650		.0449					
8.727			.0628				
8.750				.0195	.0000	.0144	
8.855				.0162			
8.942					.0185		
8.978				.0130			
9.056				.0049			
9.118				.0069			
9.222				.0046			
9.275							

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) CMS POD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z	8.295	.0066	.0055	.0099	.0284	.0059	.0080 .0098
8.540		.0086					
8.650		.0101					
8.727			.0151				
8.750				.0206	.0000	.0082	
8.855				.0093			
8.942					.0125		
8.978				.0088			
9.056				.0041			
9.118					.0030		
9.222					.0030		
9.275							

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.700 Q1 = 3.949 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .675 .1066 .0880 .0765 .0708 .0715 .1360 .2115 .2042

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.700 Q1 = 3.949 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .675 .1212 .1044 .0882 .0934 .1426 .2559 .2812 .2355

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTKC17) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. WING UPPER CREASE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 19.999 ELEVON = 5.000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 97.700 Q1 = 3.949 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0026 .0007 .0011 .0003 .0028

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 97.700 Q1 = 3.949 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0017 .0004 .0007 .0018 .0019

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 97.700 Q1 = 3.949 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0148 .0101 .0224 .0445 .0091 .0041

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 97.700 Q1 = 3.949 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0149 .0173 .0276 .0205 .0060 .0017

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTKB18) (15 JAN 75)

AEDC VA352 OH4B O1 ORB. FUSELAGE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
B.FLAP = 10.000 ELEVON = 5.000
HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 97.200 Q1 = 3.933 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HJ/HQ

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
FHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000															.0000
14.000															.1412
20.000															.1535
22.000															.1692
24.500															.0932
35.000															
39.000															
42.500															
48.000															
60.000															
119.000															
180.000															

FHI

10.000

14.000

20.000

22.000

24.500

35.000

39.000

42.500

48.000

60.000

119.000

180.000

X/L

.1200

.1250

.1300

.1400

.1500

.1560

.1600

.1620

.1670

.1690

.1700

.1780

.1800

.1810

.1820

FHI

.0000

10.000

20.000

25.500

40.000

45.500

131.200

145.400

146.200

156.000

159.200

170.700

171.900

173.400

180.000

X/L

.1830

.1900

.1910

.2000

.2250

.2500

.2750

.3000

.3250

.3500

.3750

.4000

.4250

.4500

.4750

FHI

.0000

.0966

11.500

MACH (1) = 0.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FHI

12.000 .0849
21.500 .0000
23.000 .0000

24.000 .0000

31.500 .1347

34.000 .1103

35.000 .1347

40.000 .1070

45.000 .1106

51.000 .0549

57.500 .0181

59.500 .0056

61.000 .0392

65.000 .0374

70.000 .0254

96.500 .0257

105.000 .0145

106.000 .0019

135.000 .0000

140.000 .0000

141.400 .0000

151.000 .0000

180.000 .0000

X/L

.5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

FHI

.0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

21.500 .0000

63.000 .0019

64.000 .0000

65.000 .0000

65.500 .0000

105.000 .0030

111.000 .0456

112.000 .0317

113.000 .0319

116.000 .0037

135.000 .0025

149.000 .0075

180.000 .0000

X/L

.8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0150 1.0140 1.0250 1.0380 1.0500

FHI:

.0039

.0121

.0024

.0040

.0620

.0038

.0023

.0145

.0758



TABLE 1. SUMMARY OF DATA LISTING FOR OH48 (AEDC VA352)

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HG

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FHI															
156.000														.0000	.0000
159.200															
170.700												.0000			
171.900										.0000					
173.400															
180.000		.0099			.0121	.0000	.0205				.0783		.0207		
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FHI															
.0000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
11.500				.1106											
12.000								.0981							
21.500								.0000				.0000			
23.000				.0000											
24.000				.1567											
31.500															
34.000								.1267							
35.000				.1493											
40.000				.1348				.1250							
45.000								.1239							
51.000				.0619											
57.500								.0190							
59.500												.0043			
61.000								.0413							
65.000								.0422							
70.000								.0336							
96.500				.0297											
105.000												.0196			
106.000								.0202							
135.000								.0015				.0012			
140.000				.0000											
141.400			.0000												
151.000			.0000												
180.000				.0098	.0099	.0037						.0034			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.8000	.8250	.8290	
FHI															
.0000															
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
63.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
64.000	.0018														
65.000									.0034						
65.500					.0032									.0020	



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH48 (AEDC VA352)

(CTKB18)

AEDC VA352 OH48 O1 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0309				.0644			.0645					.0174		.0052
111.000					.0423										
112.000					.0387										
113.000											.0656				
116.000					.0039			.0050			.0162				
135.000	.0021														
149.000					.0033			.0048					.0044		
180.000	.0030														
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000			
39.000													.4068		
52.500						.0075									
55.000			.0090												
65.000			.0093												
68.000						.0082									
100.000			.0099												
108.000			.0059			.0065									
112.000					.0033										
113.000								.0042							

PARAMETRIC DATA

SREF = .8230 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C	.001	.0536	.0285	.3327	.1765	.2987	.0536	.1562	.0925	.0430		
.002				.2750	.4047	.2318						
.003				.3949	.3486	.1733						
.004				.3179	.2580	.1277						
.005				.2096	.4276	.4212						
.006				.1804	.1879	.2078	.2276					
.007				.1464	.1336							
.025				.1251	.1282	.1005	.1159	.1274	.1364			
.050				.1091		.2487						
.100					.1139							
.153					.1326							
.177					.1329	.3645	.1439		.1069			
.200												
.299					.1313	.0935						
.300					.1508	.1373	.0781	.1770	.1037	.0882		
.302												
.303												
.428												
.444												
.487												
.500												
.559												
.590												
.600												
.700												
.736												
.800												
.850												
.900												



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

MACH (1) = 8.000 ALPHA (2) = 35.000 OH4B O1 CR8. BOTTOM SURFACE WING (CTKL18) HREF = .049

SECTION (1) BOTTOM SURF. WING DEFENDENT VARIABLE HU/HO

2Y/8	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9680	.9930
X/C	.0531	.0325	.2790	.1722	.2051	.0514	.1243	.0872	.0690			
.001				.2771		.1913						
.002				.4221		.2153						
.003				.4526		.2370						
.004				.4070		.2516						
.005				.3959		.2623						
.006				.3412		.2681						
.007					.3074							
.025	.0722	.1958	.3949							.1864		
.050		.1925		.2678	.2697	.4087				.2052		
.100	.1354											
.153		.1378										
.177												
.200		.1380		.2050								
.299	.0899											
.300												
.302		.1365	.1578	.4671	.4108	.2882						
.303		.1215										
.428					.1886							
.444	.0887			.2058								
.487		.2764										
.500					.1875	.3235				.2628		
.559		.1474										
.590	.1140											
.600		.2459	.1733			.1873						
.700		.1685	.2371	.1986	.0991					.2604		
.736	.2216											
.800				.1850	.1200							
.850				.2517	.1722							
.900	.1618	.2068	.2418	.2338	.1542					.2560		

REFERENCE DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0092 .0414 .0356 .0389
 .010 .0144 .0467 .0525 .0473
 .100 .0093 .0368 .0684 .0400
 .300 .0419 .0558 .0348 .0255
 .500 .0053 .0149 .0129 .0247
 .700 .0132 .0147 .0204

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0142 .0266 .0621 .0670
 .010 .0168 .0146 .0426 .0381
 .100 .0077 .0100 .0381 .0275
 .300 .0090 .0309 .0235 .0197
 .500 .0020 .0038 .0079 .0110
 .700 .0048 .0081 .0099

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



(CTKR18) (15 JAN 75)

AEDC VA352 CH48 01 CRB. RCS CENTER

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAM/MT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.200 Q1 = 3.933 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0618 .0374 .0023 .0075 .0086

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.200 Q1 = 3.933 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0627 .0422 .0020 .0093 .0082

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5833 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) CMS FOD DEPENDENT VARIABLE HU/HD

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z
 8.295 .0654 .1916 .1097 .0631 .0179 .0165 .0119
 8.540 .1380
 8.650 .0744
 8.727 .0955
 8.750
 8.855 .0373 .0000 .0094
 8.942 .0290
 8.978 .0118
 9.056 .0043
 9.118 .0079
 9.222 .0043
 9.275 .0046

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) CMS FOD DEPENDENT VARIABLE HU/HD

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z
 8.295 .0663 .1453 .0983 .0812 .0237 .0224 .0189
 8.540 .0985
 8.650 .0428
 8.727 .0644
 8.750
 8.855 .0260 .0000 .0201
 8.942 .0155
 8.978 .0182
 9.056 .0088
 9.118 .0052
 9.222 .0034
 9.275 .0027



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTKCI6) (15 JAN 75)

AEDC VA352 OH4B O1 ORB. WING UPPER CREASE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 S.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0056 .0019 .0030 .0008 .0055

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0043 .0018 .0032 .0034 .0090

AEDC VA352 OR4B 01 ORB. FUSELAGE Z=7.525 (CTMF18) (15 JAN 75)

REFERENCE DATA

SREF = .8230 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 6.000 ALPHA (1) = 30.000 T1 = 97.200 Q1 = 3.933 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0181 .0145 .0239 .0456 .0620 .0145

MACH (1) = 6.000 ALPHA (2) = 35.000 T1 = 97.200 Q1 = 3.933 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0202 .0196 .0309 .0644 .0645 .0174

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.726
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



(CTX819)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION 1 ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

X/L

.5000

.5250

.5500

.5750

.6000

.6250

.6500

.6750

.7000

.7250

.7500

.7750

.8000

.8250

.8500

FHI

.000

21.500

63.000

64.000

65.000

65.500

105.000

111.000

112.000

113.000

116.000

135.000

149.000

180.000

X/L

.8500

.8750

.9000

.9250

.9500

.9750

1.0000

1.0130

1.0140

1.0250

1.0380

1.0500

FHI:



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTRB19)

AEDC VA352 OH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

21.500

39.000

52.500

55.000

65.000

68.000

100.000

108.000

112.000

113.000

.1671

.0070

.0133

.0152

.0060

.0067

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MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.650 Q1 = 1.983 HREF = .035

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .9000 .9050 .9100 .9200 .9250 .9300 .9400 .9500 .9600 .9700 .9750 .9800 .9900 .1000

PHI

.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

10.000

14.000

20.000

22.000

24.500

35.000

39.000

42.500

48.000

60.000

119.000

180.000

.2695

.2533

.1204

.0884

.0322

.0125

.0305

.0160

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.1820

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MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION: (1) CRBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L .1250 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

PHI

156.000
 159.200
 170.700
 171.900
 173.400
 180.000

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

.0000
 11.500
 12.000
 21.500
 23.000
 24.000
 31.500
 34.000
 35.000
 40.000
 45.000
 51.000
 57.500
 59.500
 61.000
 65.000
 70.000
 96.500
 105.000
 106.000
 135.000
 140.000
 141.400
 151.000
 180.000

X/L

PHI

.0000
 .0000
 .0015
 64.000
 65.000
 65.500



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKB19)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FHI															
105.000	.0353				.0658		.0293						.0075		.0113
111.000					.0666										
112.000					.0534										
113.000											.0440				
116.000					.0036		.0052				.0066				
135.000	.0021						.0031								
149.000					.0024								.0029		
160.000	.0020														
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
FHI															
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000		.0000	.0000	.0000			
21.500															
39.000															
52.500						.0073	.2023						.2792		
55.000	.0030														
65.000	.0038														
68.000						.0086									
100.000	.0058														
108.000	.0094					.0059									
112.000							.0033								
113.000								.0039							

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.850 Q1 = 1.983 HREF = .035

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEWON = 5.000
 HAM/HT = .000

SECTION (1) BOTTOM SURF. WING DEFICENT VARIABLE MU/HO

27/8 .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0612	.0311	.3584	.1840	.2853	.0503	.1301	.0761	.0433
.002				.2893	.2248				
.003				.4349	.2165				
.004				.3934	.1945				
.005				.3540	.1705				
.006				.2988	.1377				
.007				.2533	.1255				
.025	.0756	.2281	.4500	.3945					
.050		.1859		.1986	.2077	.2282		.1718	.1768
.133	.1331								
.177			.1397						
.200		.1221		.1333					
.299	.0885								
.300							.1184	.1369	.1455
.302		.1003	.1278	.0939					
.303					.3154				
.428				.1084					
.444	.0778								
.487			.1107						
.500					.2013	.2179		.1127	
.559	.0843								
.590									
.600	.0390						.0556		
.700		.0895	.0875						
.736	.0843	.0782	.0618	.0620				.0679	
.800									
.850			.0429	.0624					
.900	.1124	.0695	.0641	.0702	.0751			.0862	



UNCLASSIFIED DATA LISTING FOR OM4B (AEDC VA352)

AEDC VA352	CH4B 01	ORB. BOTTOM SURFACE WING	(CTLK19)
		$\frac{1}{M} = 1.983$	MREF = .035

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE HU/HQ

2Y/B

31X

.001	.0328	.0552	.2950	.1663	.2182	.3402
.002				.2540	.1770	
.003				.4008	.1828	
.004				.3909	.1762	
.005				.3571	.1655	
.006				.3288	.1424	
.007				.2736	.1345	
.025	.0712		.1971	.4004	.3135	.1466
.050			.1832	.2037	.2049	.1524
.100						
.153	.1367					
.177			.1348	.1328		
.200			.1281			
.299	.0913			.1226	.3122	.1509
.300			.1082		.1196	
.302					.1121	
.303						
.428						
.444						
.487	.0778			.1163	.1071	.1646
.500					.3281	
.559			.0843			
.590	.0592			.1032	.0973	.1319
.600			.0851	.0865	.0541	.1882
.700						
.736	.0803			.0432	.0452	
.800				.0832	.0842	
.850				.0806	.0793	.1813
.900	.1443		.0745	.0683		

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALFHA (1) = 30.000 TI = 95.650 QI = 1.983 HREF = .035

SECTION (1) LEFT VERTICAL TAIL

DEPENDENT VARIABLE HU/HQ

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0139 .0236 .0496 .0827
 .010 .0177 .0098 .0315 .0351
 .100 .0090 .0090 .0523 .0219
 .300 .0100 .0396 .0327 .0108
 .500 .0032 .0036 .0124 .0163
 .700 .0037 .0150 .0133

MACH (1) = 8.000 ALFHA (2) = 35.000 TI = 95.650 QI = 1.983 HREF = .035

SECTION (1) LEFT VERTICAL TAIL

DEPENDENT VARIABLE HU/HQ

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0093 .0245 .0187 .0126
 .010 .0128 .0171 .0414 .0323
 .100 .0052 .0106 .0502 .0344
 .300 .0129 .0402 .0234 .0225
 .500 .0022 .0055 .0115 .0119
 .700 .0051 .0121 .0107

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



DATE 23 JAN 75
TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTKR19) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. RCS CENTER

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 95.650 Q1 = 1.983 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0675 .0456 .0011 .0047 .0133

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 95.650 Q1 = 1.983 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0645 .0413 .0018 .0038 .0086

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
B.FLAP = 10.000 ELEVON = 5.000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 95.650 Q1 = 1.983 HREF = .035

SECTION (1) GMS F00

DEPENDENT VARIABLE HU/H0

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0564 .1430 .0862 .0370 .0194 .0223 .0226
 8.540 .1046
 8.650 .0619
 8.727 .0787
 8.750
 8.855 .0364 .0000 .0088
 8.942 .0237
 8.978 .0108
 9.056 .0070
 9.118 .0074
 9.222 .0071
 9.275 .0052

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 95.650 Q1 = 1.983 HREF = .035

SECTION (1) GMS F00

DEPENDENT VARIABLE HU/H0

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0732 .1526 .0660 .0467 .0443 .0383 .0287
 8.540 .1052
 8.650 .0557
 8.727 .0648
 8.750
 8.855 .0210 .0000 .0176
 8.942 .0219
 8.978 .0115
 9.056 .0080
 9.118 .0074
 9.222 .0043
 9.275 .0038

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



DATE 23 JAN 75

STABULATED DATA LISTING FOR CH4B (AEDC VA352)

AE DC VA 352 CH 4B 01 ORB. WING UPPER CREASE

(CTKC19) (15 JAN 75)

REFERENCE DATA

\$REF	=	.0238 SQ. FT.	XMRP	=	.0000 IN.
LREF	=	22.5803 IN.	YMRP	=	.0000 IN.
BREF	=	16.3919 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0175 SCALE			

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSÉLAGE

Year	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100																																								
Population	100000	105000	110000	115000	120000	125000	130000	135000	140000	145000	150000	155000	160000	165000	170000	175000	180000	185000	190000	195000	200000	205000	210000	215000	220000	225000	230000	235000	240000	245000	250000	255000	260000	265000	270000	275000	280000	285000	290000	295000	300000	305000	310000	315000	320000	325000	330000	335000	340000	345000	350000	355000	360000	365000	370000	375000	380000	385000	390000	395000	400000	405000	410000	415000	420000	425000	430000	435000	440000	445000	450000	455000	460000	465000	470000	475000	480000	485000	490000	495000	500000	505000	510000	515000	520000	525000	530000	535000	540000	545000	550000	555000	560000	565000	570000	575000	580000	585000	590000	595000	600000	605000	610000	615000	620000	625000	630000	635000	640000	645000	650000	655000	660000	665000	670000	675000	680000	685000	690000	695000	700000	705000	710000	715000	720000	725000	730000	735000	740000	745000	750000	755000	760000	765000	770000	775000	780000	785000	790000	795000	800000	805000	810000	815000	820000	825000	830000	835000	840000	845000	850000	855000	860000	865000	870000	875000	880000	885000	890000	895000	900000	905000	910000	915000	920000	925000	930000	935000	940000	945000	950000	955000	960000	965000	970000	975000	980000	985000	990000	995000	1000000

FBI				
62,000	.0076	.0028	.0032	.0031
				.0023

MACH (1) = 8.0000 ALPHA (2) = 35.0000

SECTION (1)ORBITER FUSELAGE

	x/L	.4000	.5000	.6000	.7000	.9000
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FBI					
62-000	.0048	.0015	.0022	.0011	.0030

PARAMETRIC DATA

BETA	=	-5.000	RN/L	=	2.000
B.FLAP	=	10.000	ELEVON	=	5.000
HALV/HT	=	.000			

1.983 HREF = .035

$$\frac{1.983}{\text{HREF}} = .935$$

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.650 QI = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0207 .0186 .0296 .0625 .0479 .0117

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.650 QI = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0209 .0186 .0353 .0658 .0203 .0075

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKB20) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. FUSELAGE

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE
 BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

FHI

.0000 .4183 .4221 .2821 .2428 .2107 .1838 .1557 .0000 .1321 .1238 .1161 .1350 .1388 .1508 .0742
 10.000
 14.000 .2331
 20.000 .2235
 22.000
 24.300 .0997
 35.000 .0740
 42.500 .0318
 48.000
 60.000 .0669
 119.000 .0172
 180.000 .0103 .0527 .0145 .0080

X/L

FHI

.1110 .1048 .0983 .0882 .0903 .0877 .0872 .0052 .0077 .0144 .0204
 10.000
 20.000 .1300
 25.500 .1076
 40.000 .1241
 45.500 .0890
 45.500 .0567
 131.200
 145.400 .0061
 146.200
 156.000
 159.200
 170.700
 171.900
 173.400
 180.000 .0319 .0447 .0141 .0199 .1045 .0533 .0072

X/L

FHI

.0822 .0809 .0000 .0696 .0671 .0702 .0777 .0764 .0736 .0711 .0669 .0620
 .0000
 11.500 .0890

DATE 23 JAN 75

AFDC VA352 CH4R 01 CRB. FUSELAGE

114

DATE 23 JAN 75
TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTKB2D)

AEDC VA352 CH4B C1 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

DEPENDENT VARIABLE HU/HQ

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0140	1.0250	1.0380	1.0500
1.0620	1.0750	1.0875	1.1000	1.1125	1.1250	1.1375	1.1500	1.1625	1.1750	1.1875	1.2000
1.2125	1.2250	1.2375	1.2500	1.2625	1.2750	1.2875	1.3000	1.3125	1.3250	1.3375	1.3500
1.3625	1.3750	1.3875	1.4000	1.4125	1.4250	1.4375	1.4500	1.4625	1.4750	1.4875	1.5000
1.5125	1.5250	1.5375	1.5500	1.5625	1.5750	1.5875	1.6000	1.6125	1.6250	1.6375	1.6500
1.6625	1.6750	1.6875	1.7000	1.7125	1.7250	1.7375	1.7500	1.7625	1.7750	1.7875	1.8000
1.8125	1.8250	1.8375	1.8500	1.8625	1.8750	1.8875	1.9000	1.9125	1.9250	1.9375	1.9500
1.9625	1.9750	1.9875	2.0000	2.0125	2.0250	2.0375	2.0500	2.0625	2.0750	2.0875	2.1000
2.1125	2.1250	2.1375	2.1500	2.1625	2.1750	2.1875	2.2000	2.2125	2.2250	2.2375	2.2500
2.2625	2.2750	2.2875	2.3000	2.3125	2.3250	2.3375	2.3500	2.3625	2.3750	2.3875	2.4000
2.4125	2.4250	2.4375	2.4500	2.4625	2.4750	2.4875	2.5000	2.5125	2.5250	2.5375	2.5500
2.5625	2.5750	2.5875	2.6000	2.6125	2.6250	2.6375	2.6500	2.6625	2.6750	2.6875	2.7000
2.7125	2.7250	2.7375	2.7500	2.7625	2.7750	2.7875	2.8000	2.8125	2.8250	2.8375	2.8500
2.8625	2.8750	2.8875	2.9000	2.9125	2.9250	2.9375	2.9500	2.9625	2.9750	2.9875	3.0000

PHI	3718	3901	3893
PHI	3718	3901	3893

.000	,0697	,0113	,0000
			0732

21,300	.3493
10,000	.1951

39.303	.0040
52.500	

22,000
35,000
57,000

65.000 .0014

68.030 .0014

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2
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	108.000	.9019	,5525	0006
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	112.000	.0019	
		.0019	

113.000

11.111 / 21 =	45.000	TI =	95.900	91	= 1.980	WRF =	.035
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SECTION / ORBITER FUSELAGE	DEPENDENT VARIABLE HU/HO
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98	1
99	1
100	1

x/L	.0000	.0030	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
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FHJ	1481	1436	1310
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[illegible]

10,000
CE 42

14.0000	.2513	.1558
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20.000 2360

22,000	1,000
24,500	
	1,621

24,750
75 000
.17948

39,000
22,000
17,000
39,000

42.500	.7695
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48.000 .0471

60.000	.0251	.0099
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119,000

.0762	.0123	.0077
.0292		
.180,000		

[illegible][illegible]

FWI	1900	1901	1902	1903	1904
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1906	1301	1232	1141	1060	1048
1907	1301	1232	1141	1060	1048
1908	1301	1232	1141	1060	1048
1909	1301	1232	1141	1060	1048
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1913	1301	1232	1141	1060	1048
1914	1301	1232	1141	1060	1048
1915	1301	1232	1141	1060	1048
1916	1301	1232	1141	1060	1048
1917	1301	1232	1141	1060	1048
1918	1301	1232	1141	1060	1048
1919	1301	1232	1141	1060	1048
1920	1301	1232	1141	1060	1048
1921	1301	1232	1141	1060	1048
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1941	1301	1232	1141	1060	1048
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1943	1301	1232	1141	1060	1048
1944	1301	1232	1141	1060	1048
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1949	1301	1232	1141	1060	1048
1950	1301	1232	1141	1060	1048
1951	1301	1232	1141	1060	1048
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1959	1301	1232	1141	1060	1048
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1961	1301	1232	1141	1060	1048
1962	1301	1232	1141	1060	1048
1963	1301	1232	1141	1060	1048
1964	1301	1232	1141	1060	1048
1965	1301	1232	1141	1060	1048
1966	1301	1232	1141	1060	1048
1967	1301	1232	1141	1060	1048
1968	1301	1232	1141	1060	1048
1969	1301	1232	1141	1060	1048
1970	1301	1232	1141	1060	1048
1971	1301	1232	1141	1060	1048

10.000	.1325	11.325	12.650
.0050	.1194	.1244	.1294
.0050	.1132	.1182	.1232
.0050	.1070	.1120	.1170
.0050	.1008	.1058	.1108
.0050	.0946	.0996	.1046
.0050	.0884	.0934	.0984
.0050	.0822	.0872	.0922
.0050	.0760	.0810	.0860
.0050	.0698	.0748	.0798
.0050	.0636	.0686	.0736
.0050	.0574	.0624	.0674
.0050	.0512	.0562	.0612
.0050	.0450	.0500	.0550
.0050	.0388	.0438	.0488
.0050	.0326	.0376	.0426
.0050	.0264	.0314	.0364
.0050	.0202	.0252	.0302
.0050	.0140	.0190	.0240
.0050	.0078	.0128	.0178
.0050	.0016	.0066	.0116
.0050	.0000	.0050	.0100

5000	20.0000
1218	.1218

25,500 .1376

	40,000	.0938
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97000	97000	97000
98000	98000	98000
99000	99000	99000
100000	100000	100000

45,500	.0561
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31.200	.0047	Price
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(CTRB20)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1550	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI															
156.000														.0104	.0149
159.200												.0049			
170.700															
171.900															
173.400															
180.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3050	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
.000	.1111			.0962	.0700	.0856	.0882	.0801	.0933	.0889	.0886	.0856	.0827	.0788	.0731
11.500				.1043											
12.000								.0918							
21.500								.1004							
23.000															
24.000				.1223											
31.500				.1343											
34.000								.1134							
35.000				.1269											
40.000				.1210											
45.000								.1047							
51.000				.0401											
57.500								.0589							
59.500												.0019			
61.000								.0192							
65.000								.0210							
70.000								.0214							
96.500				.0209											
105.000															
106.000								.0144							
135.000				.0051				.0014							
140.000															
141.400	.0078														
151.000			.0120	.0160											
180.000								.0030							
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0725	.0714	.0733	.0742	.0742	.0736	.0763	.0762	.0735	.0784	.0800	.0794	.0908	.0950	
21.500	.0753				.0636				.0775				.0834		
63.000	.0005														
64.000									.0005						
65.000															
65.500					.0006									.0003	



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(02815)

AEDC VA352 CH4B 01 ORB. FUSELAGE

$$\text{MACH (1)} = 8.000 \quad \text{ALPHA (2)} = 35.000$$

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523</
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FH1	.0108	.0046	.0009
175,000	.0316		.0007

111.000
112.000
0223
0192

.5263		.9936
113.000		
116.000		.9947

135.000	.0015	.0023	.0058	.0030
149.000			.0016	

180.000	.0015	.0014	.0010
180.000	.0015	.0014	.0010

[illegible]

PHI	.0950	.1003	.0993	.1041	.0984	.3429	.2222	.3755	.4171	.4184	.3977
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21,500	.1012	.2412	.3429
39,000			

52.500	.0052
55.000	.0005

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[illegible]

108,000	,0007	,0014	,0020	note
112,000				

113.999 .000

(CTKL20) (15 JAN 75)

AEDC VA352 OH48 01 ORB. BOTTOM SURFACE WING

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BRP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 95.900 Z1 = 1.980 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0427	.0239	.2953	.1622	.2129	.0494	.0996	.0593	.0555
.002			.2638	.1822					
.003			.3572	.1806					
.004			.3757	.1730					
.005			.3165	.1609					
.006			.3251	.1475					
.007			.2638	.1400					
.025	.0504	.1718	.3846		.3179				.1349
.050		.1610		.1817	.2285	.2243			.1399
.100	.1073								
.153			.1122						
.177		.1096							
.200				.1325					
.299	.0766								
.300			.1098	.1136	.3313	.1971	.1521		
.302		.0928							
.303					.1178				
.428			.1153						
.444	.0629								
.487		.1045			.0990	.3176	.1817		
.500									
.559	.0485	.0763							
.590			.0845	.0743					
.600		.0731	.0788	.0542	.0498		.1446		
.700									
.736	.0696								
.800			.0342	.0464					.1966
.850			.0686	.0768					
.900	.1125	.0642	.0835	.0642	.0722				.1775

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTRL20)

AEDC VA352 CH4B O1 ORB. BOTTOM SURFACE WING

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 95.900 Q1 = 1.980 WREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/H0

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001 .0441 .0237 .2597 .1965 .1890 .0383 .0986 .0719 .0672

.002

.3226

.1482

.1618

.1517

.1574

.1358

.1361

.2746

.1500

.1693

.1624

.2592

.2519

.2558

.1074

.1510

.1142

.1052

.1152

.1675

.3523

.2727

.0966

.1412

.1141

.1296

.1095

.1108

.2371

.0839

.0718

.2033

.0895

.0760

.0571

.0390

.0505

.0787

.0899

.0768

.0829

.1388

.1305

(CTKU20) (15 JAN 75)

AEDC VA352 CH48 01 ORB. UPPER SURFACE WING

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN. BETA = .000 RN/L = 2.000
 LREF = 22.5803 IN. YMRP = .0000 IN. B.FLAP = 10.000 ELEVON = 5.000
 BREF = 16.3919 IN. ZMRP = .0000 IN. HAW/HT = .000
 SCALE = .0175 SCALE

PARAMETRIC DATA

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) UPPER SURFACE WING DEFENDENT VARIABLE MU/HQ

2Y/B .4000 .6000 .8000

X/C

.050 .0008 .0629 .1718
 .200 .0504 .0485 .1610
 .600 .1073 .0696 .1096
 .800 .1125 .0928
 .900 .0427 .0763
 .950 .0766 .0239 .0731

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) UPPER SURFACE WING DEFENDENT VARIABLE MU/HQ

2Y/B .4000 .6000 .8000

X/C

.050 .0003 .0700 .1568
 .200 .0524 .0615 .1624
 .600 .1140 .0959 .1142
 .800 .1388 .0966
 .900 .0441 .0639
 .950 .0828 .0237 .0835



DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

PAGE 261

(CTKV2D) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. LEFT VERTICAL TAIL

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 ØREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVEN = 5.000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEFENDENT VARIABLE HU/HO

Z/ØV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0116 .0122 .0207 .0278
 .010 .0280
 .100 .0161 .0092 .0096 .0179
 .300 .0086 .0063 .0080 .0137
 .500 .0048 .0090 .0130 .0134
 .700 .0029 .0020 .0036 .0073
 .900 .0020 .0048 .0093

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEFENDENT VARIABLE HU/HO

Z/ØV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0201 .0308 .0514 .0417
 .010 .0225
 .100 .0153 .0105 .0286 .0265
 .300 .0079 .0051 .0214 .0266
 .500 .0029 .0219 .0282 .0153
 .700 .0015 .0018 .0060 .0128
 .900 .0029 .0055 .0105

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTKR20) (15 JAN 75)

AEDC VA352 OH4B 01 CRB. RCS CENTER

PARAMETRIC DATA

BETA = .000 RM/L = 2.000
B.FLAP = 10.000 ELEVON = 5.000
HAM/HT = .000

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/H0

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0527 .0229 .0005 .0014 .0014

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/H0

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0471 .0210 .0003 .0005 .0017



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTK420) (15 JAN 75)

AEDC VA352 CH4B 01 CRB. CMS FOD

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
B.FLAP = 10.000 ELEVON = 5.000
HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) CMS FOD

DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0065 .0279 .0352 .0288 .0361 .0053 .0041
8.540 .0376
8.650 .0276
8.727 .0500
8.750 .0297
8.855 .0206
8.942 .0123
8.978 .0075
9.056 .0061
9.118 .0051
9.222 .0040
9.275

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) CMS FOD

DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0059 .0047 .0043 .0070 .0040 .0044 .0068
8.540 .0074
8.650 .0114
8.727 .0069
8.750 .0064
8.855 .0079
8.942 .0080
8.978 .0113
9.056 .0051
9.118 .0038
9.222 .0040
9.275

AEDC VA352 CH48 01 CRB. FUSELAGE Y=0.875 (CTRY20) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5853 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1055 .0894 .0732 .0640 .0538 .0608 .0592 .0732

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1223 .1004 .0848 .0753 .0636 .0775 .0834 .1012

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAM/HT = .000



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

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AEDC VA352 CH4B 01 ORB. WING UPPER CREASE

(CTKC20) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .4000 .5000 .6000 .7000 .9000

FHI

62.000 .0027 .0007 .0010 .0005 .0008

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .4000 .5000 .6000 .7000 .9000

FHI

62.000 .0019 .0005 .0006 .0005 .0005

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) CRBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0153 .0110 .0314 .0199 .0067 .0021

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) CRBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0144 .0175 .0316 .0108 .0046 .0009

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



AEDC VA352 OH48 01 ORB. FUSELAGE

(CTRB21) (15 JAN 75)

REFERENCE DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 γ 1 = 91.950 ϕ 1 = .518 HREF = .017

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

PHI

.000
 10.000
 14.000
 20.000
 22.000
 24.500
 35.000
 39.000
 42.500
 48.000
 60.000
 119.000
 180.000

X/L

.1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

PHI

.000
 10.000
 20.000
 25.500
 40.000
 45.500
 131.200
 145.400
 146.200
 156.000
 159.200
 170.700
 171.900
 173.400
 180.000

X/L

.1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

.000
 11.500

AEDC VA352 CH4B O1 GRB. FUSELAGE (CTR821)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE MU/HQ

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FH1															
12.000								.0853							
21.500								.0000				.0000			
23.000								.0000							
24.000				.0000											
31.500				.1375				.1188							
34.000								.1158							
35.000				.1389				.1212							
40.000				.1454											
45.000								.0203				.0072			
51.000				.0639				.0427							
57.500								.0434							
59.500								.0313							
61.000												.0192			
65.000								.0207				.0020			
70.000								.0034							
96.500				.0302											
105.000															
106.000															
135.000				.0000											
140.000															
141.400	.0000														
151.000			.0000					.0018				.0041			
180.000							.0053								
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FH1															
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
63.000	.0021				.0000			.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
64.000								.0018							
65.000													.0009		
65.500					.0026								.0069		.0073
105.000	.0392				.0570			.0169							
111.000															
112.000					.0664										
113.000					.0609										
116.000											.0200				
135.000	.0033				.0041			.0075				.0046			
149.000															
180.000	.0048				.0039			.0042						.0030	
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

FH1



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH48 (AEDC VA352)

(CTKB21)

AEDC VA352 OH48 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
52.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
55.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
65.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
68.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
100.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
108.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
112.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
113.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

PHI

.000

21.500

39.000

52.500

55.000

65.000

68.000

100.000

108.000

112.000

113.000

.0043

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
14.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
20.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
22.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
24.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
35.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
42.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
48.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
60.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
119.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
180.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

PHI

.000

10.000

14.000

20.000

22.000

24.500

35.000

39.000

42.500

48.000

60.000

119.000

180.000

.0661

.1746

.1882

.0984

.0159

.0065

.1820

PHI

.000

10.000

20.000

25.500

40.000

45.500

131.200

145.400

146.200

.0000

.0000

.0000

(CTKB21)

AEDC VA352 CH4B 01 CRB, FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

FHI

136.000														.0000	.0000
159.200														.0000	.0000
170.700														.0000	.0000
171.900														.0000	.0000
173.400														.0000	.0000
180.000														.0000	.0000

X/L

.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

FHI

.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
11.500														.0000
12.000														.0000
21.500														.0000
23.000														.0000
24.000														.0000
31.500														.0000
34.000														.0000
35.000														.0000
40.000														.0000
45.000														.0000
51.000														.0000
57.500														.0000
59.500														.0000
61.000														.0000
65.000														.0000
70.000														.0000
96.500														.0000
105.000														.0000
106.000														.0000
135.000														.0000
140.000														.0000
141.400														.0000
151.000														.0000
180.000														.0000

X/L

.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

FHI

.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500														.0000
63.000														.0000
64.000														.0000
65.000														.0000
65.500														.0000

X/L

.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

FHI

.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500														.0000
63.000														.0000
64.000														.0000
65.000														.0000
65.500														.0000

X/L

.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------



DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

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AEDC VA352 OH4B 01 ORB. FUSELAGE

(CTK821)

MACH (1) = 0.000 ALPHA (2) = 35.000

SECTION (1) ORBITTER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PH1															
105.000	.0539				.0248			.0109					.0046		
111.000					.0381										.0060
112.000					.0451										
113.000															
116.000											.0160				
135.000	.0034				.0058			.0061							
149.000											.0035				
180.000	.0029				.0028			.0034					.0055		

X/L

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PH1												
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500												
39.000												
52.500												.1896
55.000			.0018			.0034						
65.000			.0016									
68.000						.0047						
100.000			.0031									
108.000			.0052			.0042						
112.000						.0027						
113.000								.0033				

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKL21) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. BOTTOM SURFACE WING

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 91.950 3I = .518 HREF = .017

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE MU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												

X/C

.001	.0634	.0326	.3712	.1947	.2938	.0546	.1324	.0794	.0408			
.002			.3005	.4388	.2220	.1987						
.003			.4016	.3657	.1746	.1443						
.004			.3044	.2584	.4049							
.005		.2455	.4655	.2035	.2008	.2304						
.006		.1899										
.007	.0759		.1456	.1326								
.025		.1260										
.050			.1307	.0875	.1169	.1402	.1554					
.100	.1340	.1062			.0950							
.153				.1093								
.177			.1176		.1040	.1203	.1204					
.200		.0895										
.299	.0627		.0948	.0916			.0544					
.300		.0838	.0808	.0661	.0495							
.302												
.303												
.428												
.444	.0786											
.487												
.500												
.559												
.590												
.600												
.700												
.736	.0705											
.800				.0522	.0664							
.850				.0772	.0796							
.900	.0617	.0683	.0629	.0696	.0699							.0843

PARAMETRIC DATA

BETA = -5.000 RIV/L = .500
 S.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000



AEDC VA352 CH4B O1 CRB. BOTTOM SURFACE WING (CTKL21)

MACH (1) = 0.000 ALPHA (2) = 35.000 T1 = 91.950 Q1 = .518 HREF = .017

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE MU/HO

Z1/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9600 .9930

X/C

.001	.0619	.0324	.3094	.1730	.2290	.0475	.1096	.0713	.0374
.002			.2678	.4196	.1832				
.003				.3983	.1871				
.004				.3682	.1787				
.005				.3386	.1695				
.006				.2845	.1463				
.007					.1342				
.025	.0711		.2131	.4110	.3315				
.050						.1544			
.100			.1901	.2094	.2111	.2411	.1621		
.153	.1411								
.177			.1337	.1444					
.200				.1417					
.299	.0942								
.300			.1134	.1271	.0985	.1062	.1526	.1466	
.302					.1245				
.303				.1173					
.428	.0855								
.444			.1246						
.487					.1141	.1094	.1069		
.500			.0910						
.559	.0692								
.600			.1057	.0983			.0463		
.700			.0868	.0871	.0697	.0544		.0631	
.736	.0791								
.800				.0500	.0549				
.850				.0839	.0890				
.900	.0774		.0731	.0694	.0815	.0819	.0788		

AEDC VA352 OH48 01 CRB. LEFT VERTICAL TAIL (CTKV21) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XHRF = .0000 IN.
 LREF = 22.5853 IN. YHRF = .0000 IN.
 BREF = 16.3919 IN. ZHRF = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 91.950 Q1 = .518 HREF = .017

SECTION (1) LEFT VERTICAL TAIL

DEPENDENT VARIABLE MU/HQ

Z/BV .1500 .2900 .5320 .7650 .9050

X/C

.000 .0198 .0086 .0351 .0504
 .010 .0168 .0112 .0145 .0382
 .100 .0104 .0079 .0092 .0233
 .300 .0080 .0059 .0164 .0159
 .500 .0028 .0030 .0060 .0098
 .700 .0042 .0068 .0099
 .900

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 91.950 Q1 = .518 HREF = .017

SECTION (1) LEFT VERTICAL TAIL

DEPENDENT VARIABLE MU/HQ

Z/BV .1500 .2900 .5320 .7650 .9050

X/C

.000 .0060 .0313 .0314 .0264
 .010 .0097 .0000 .0466 .0346
 .100 .0062 .0091 .0283 .0246
 .300 .0152 .0243 .0248 .0135
 .500 .0019 .0039 .0100 .0143
 .700 .0048 .0127 .0125
 .900

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKR21) (15 JAN 75)

AEDC VA352 CH4B 01 CRB. RCS CENTER

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
B.FLAP = 10.000 ELEWON = 5.000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 91.950 Q1 = .518 HREF = .017

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0712 .0434 .0009 .0011 .0016

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 91.950 Q1 = .518 HREF = .017

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0661 .0362 .0003 .0016 .0047

(CTKM21) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. CMS FOD

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) CMS FOD

DEPENDENT VARIABLE HU/HQ

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0293 .1065 .0992 .0738 .0607 .0545 .0420
 8.540 .1129
 8.650 .0591
 8.727 .1043
 8.750
 8.855 .0371 .0000 .0200
 8.942 .0295
 8.978 .0140
 9.056 .0047
 9.118 .0097
 9.222 .0056
 9.275 .0040

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) CMS FOD

DEPENDENT VARIABLE HU/HQ

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0165 .0766 .0803 .0699 .0276 .0206 .0148
 8.540 .0728
 8.650 .0382
 8.727 .0645
 8.750
 8.855 .0288
 8.942 .0243
 8.978 .0198
 9.056 .0040
 9.118 .0069
 9.222 .0041
 9.275 .0028

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKC21) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. WING UPPER CREASE

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .9000 .6000 .7000 .9000

PHI

62.000 .0072 .0021 .0026 .0018 .0013

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0045 .0011 .0017 .0009 .0018

(CTKF21) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. FUSELAGE Z=7.525

REFERENCE DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 91.950 Q1 =

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0207 .0192 .0392 .0570 .0169 .0569

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 91.950 Q1 =

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0221 .0223 .0539 .0248 .0109 .0146

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000

.518 HREF = .017

.518 HREF = .017



TESTING FOR OH4B (AEDC VA352)

ORF. FUSELAGE

REFERENCE DATA

\$REF =	.8358 SQ.FT.	XMRP =	.0000 IN.
REF =	22.5803 IN.	YMRP =	.0000 IN.
BREF =	16.3919 IN.	ZMRP =	.0000 IN.
SCALE =	.0175 SCALE		

BETA	=	.000	RN/L	=	.500
B.FLAP	=	10.000	ELEVON	=	5.000
HAW/HT	=	.500			

	.018
SCALE =	= .523 WREF =

DEFINITION VARIABLE HU/HG

SECTION (1) ORBITER FUSELAGE		DEPENDENT VARIABLE HU/HO	
X/L			
.0000	.0050	.0200	.0250
		.0300	.0400
		.0500	.0600
		.0700	.0750
		.0760	.0800
		.0900	.1000

[illegible]

10.000	2365
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14,000
20,000

22,000	6377.
22,000	1532.

24,500	.1023	0377
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39.000

42,500	.0537
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48,000	.0736
60,000	.0159

119.000	.0109	.0085
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(CTKB22)

AEDC VA352 OH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000

.0797

21.500

.0752

23.000

.0876

24.000

.1060

31.500

.1170

34.000

.1054

35.000

.1179

40.000

.1022

45.000

.1110

51.000

.0976

57.500

.0424

59.500

.0105

61.000

.0194

65.000

.0214

70.000

.0209

96.500

.0226

105.000

.0127

106.000

.0155

135.000

.0020

140.000

.0048

141.400

.0037

151.000

.0120

180.000

.0029

X/L .5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

PHI

.000

21.500

63.000

64.000

65.000

65.500

105.000

111.000

112.000

113.000

116.000

135.000

149.000

180.000

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000

21.500

63.000

64.000

65.000

65.500

105.000

111.000

112.000

113.000

116.000

135.000

149.000

180.000

STABILIZED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKB22)

WEDC VA352 CH4B O1 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

ELECTRIC / INCORPORATED FUSEL AGE		DEPENDENT VARIABLE HU/HQ
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	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.55	3.60	3.65	3.70	3.75	3.80	3.85	3.90	3.95	4.00	4.05	4.10	4.15	4.20	4.25	4.30	4.35	4.40	4.45	4.50	4.55	4.60	4.65	4.70	4.75	4.80	4.85	4.90	4.95	5.00	5.05	5.10	5.15	5.20	5.25	5.30	5.35	5.40	5.45	5.50	5.55	5.60	5.65	5.70	5.75	5.80	5.85	5.90	5.95	6.00	6.05	6.10	6.15	6.20	6.25	6.30	6.35	6.40	6.45	6.50	6.55	6.60	6.65	6.70	6.75	6.80	6.85	6.90	6.95	7.00	7.05	7.10	7.15	7.20	7.25	7.30	7.35	7.40	7.45	7.50	7.55	7.60	7.65	7.70	7.75	7.80	7.85	7.90	7.95	8.00	8.05	8.10	8.15	8.20	8.25	8.30	8.35	8.40	8.45	8.50	8.55	8.60	8.65	8.70	8.75	8.80	8.85	8.90	8.95	9.00	9.05	9.10	9.15	9.20	9.25	9.30	9.35	9.40	9.45	9.50	9.55	9.60	9.65	9.70	9.75	9.80	9.85	9.90	9.95	10.00	10.05	10.10	10.15	10.20	10.25	10.30	10.35	10.40	10.45	10.50	10.55	10.60	10.65	10.70	10.75	10.80	10.85	10.90	10.95	11.00	11.05	11.10	11.15	11.20	11.25	11.30	11.35	11.40	11.45	11.50	11.55	11.60	11.65	11.70	11.75	11.80	11.85	11.90	11.95	12.00	12.05	12.10	12.15	12.20	12.25	12.30	12.35	12.40	12.45	12.50	12.55	12.60	12.65	12.70	12.75	12.80	12.85	12.90	12.95	13.00	13.05	13.10	13.15	13.20	13.25	13.30	13.35	13.40	13.45	13.50	13.55	13.60	13.65	13.70	13.75	13.80	13.85	13.90	13.95	14.00	14.05	14.10	14.15	14.20	14.25	14.30	14.35	14.40	14.45	14.50	14.55	14.60	14.65	14.70	14.75	14.80	14.85	14.90	14.95	15.00	15.05	15.10	15.15	15.20	15.25	15.30	15.35	15.40	15.45	15.50	15.55	15.60	15.65	15.70	15.75	15.80	15.85	15.90	15.95	16.00	16.05	16.10	16.15	16.20	16.25	16.30	16.35	16.40	16.45	16.50	16.55	16.60	16.65	16.70	16.75	16.80	16.85	16.90	16.95	17.00	17.05	17.10	17.15	17.20	17.25	17.30	17.35	17.40	17.45	17.50	17.55	17.60	17.65	17.70	17.75	17.80	17.85	17.90	17.95	18.00	18.05	18.10	18.15	18.20	18.25	18.30	18.35	18.40	18.45	18.50	18.55	18.60	18.65	18.70	18.75	18.80	18.85	18.90	18.95	19.00	19.05	19.10	19.15	19.20	19.25	19.30	19.35	19.40	19.45	19.50	19.55	19.60	19.65	19.70	19.75	19.80	19.85	19.90	19.95	20.00	20.05	20.10	20.15	20.20	20.25	20.30	20.35	20.40	20.45	20.50	20.55	20.60	20.65	20.70	20.75	20.80	20.85	20.90	20.95	21.00	21.05	21.10	21.15	21.20	21.25	21.30	21.35	21.40	21.45	21.50	21.55	21.60	21.65	21.70	21.75	21.80	21.85	21.90	21.95	22.00	22.
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FBI

	0.00	.0390	.0385	.0326	.0189	.0089	.0237	.0231	.0360	.0723	.1134	.1503
21.500				.0372								.1257
								.0230				

21.500	.0372	n239	.1257
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39.005	.0917	1.000
40.000	.0917	

32.300
53.000
11.000

65,000	.0009
65,000	.0009

68.000 .0030

	00.000	.0002
00.000	00.000	.0002
00.001	00.001	.0002
00.002	00.002	.0002
00.003	00.003	.0002
00.004	00.004	.0002
00.005	00.005	.0002
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00.015	00.015	.0002
00.016	00.016	.0002
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00.018	00.018	.0002
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00.020	00.020	.0002
00.021	00.021	.0002
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00.025	00.025	.0002
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00.034	00.034	.0002
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00.037	00.037	.0002
00.038	00.038	.0002
00.039	00.039	.0002
00.040	00.040	.0002
00.041	00.041	.0002
00.042	00.042	.0002
00.043	00.043	.0002
00.044	00.044	.0002
00.045	00.045	.0002
00.046	00.046	.0002
00.047	00.047	.0002
00.048	00.048	.0002
00.049	00.049	.0002
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00.055	00.055	.0002
00.056	00.056	.0002
00.057	00.057	.0002
00.058	00.058	.0002
00.059	00.059	.0002
00.060	00.060	.0002
00.061	00.061	.0002
00.062	00.062	.0002
00.063	00.063	.0002
00.064	00.064	.0002
00.065	00.065	.0002
00.066	00.066	.0002
00.067	00.067	.0002
00.068	00.068	.0002
00.069	00.069	.0002
00.070	00.070	.0002
00.071	00.071	.0002
00.072	00.072	.0002
00.073	00.073	.0002
00.074	00.074	.0002
00.075	00.075	.0002
00.076	00.076	.0002
00.077	00.077	.0002
00.078	00.078	.0002
00.079	00.079	.0002
00.080	00.080	.0002
00.081	00.081	.0002
00.082	00.082	.0002
00.083	00.083	.0002
00.084	00.084	.0002
00.085	00.085	.0002
00.086	00.086	.0002
00.087	00.087	.0002
00.088	00.088	.0002
00.089	00.089	.0002
00.090	00.090	.0002
00.091	00.091	.0002
00.092	00.092	.0002
00.093	00.093	.0002
00.094	00.094	.0002
00.095	00.095	.0002
00.096	00.096	.0002
00.097	00.097	.0002
00.098	00.098	.0002
00.099	00.099	.0002
00.100	00.100	.0002

	.09.070	.0007	.0012	.0017
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	1970	1980	1990	2000	2010	2020
12.000						
.0010						
.0020						

13.000

MACH (1) =	0.000	ALPHA (2) =	35.000	TI =	93.400	QI =	.523	WREF =	.018
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SECTION (1) ORBITER FUSELAGE	DEPENDENT VARIABLE HU/H0
1	0.0000
2	0.0000
3	0.0000
4	0.0000
5	0.0000
6	0.0000
7	0.0000
8	0.0000
9	0.0000
10	0.0000
11	0.0000
12	0.0000
13	0.0000
14	0.0000
15	0.0000
16	0.0000
17	0.0000
18	0.0000
19	0.0000
20	0.0000
21	0.0000
22	0.0000
23	0.0000
24	0.0000
25	0.0000
26	0.0000
27	0.0000
28	0.0000
29	0.0000
30	0.0000
31	0.0000
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35	0.0000
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37	0.0000
38	0.0000
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43	0.0000
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45	0.0000
46	0.0000
47	0.0000
48	0.0000
49	0.0000
50	0.0000
51	0.0000
52	0.0000
53	0.0000
54	0.0000
55	0.0000
56	0.0000
57	0.0000
58	0.0000
59	0.0000
60	0.0000
61	0.0000
62	0.0000
63	0.0000
64	0.0000
65	0.0000
66	0.0000
67	0.0000
68	0.0000
69	0.0000
70	0.0000
71	0.0000
72	0.0000
73	0.0000
74	0.0000
75	0.0000
76	0.0000
77	0.0000
78	0.0000
79	0.0000
80	0.0000
81	0.0000
82	0.0000
83	0.0000
84	0.0000
85	0.0000
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89	0.0000
90	0.0000
91	0.0000
92	0.0000
93	0.0000
94	0.0000
95	0.0000
96	0.0000
97	0.0000
98	0.0000
99	0.0000
100	0.0000

	.0200	.0100	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
--	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

FBI

Year	1950	1951	1952	1953	1954
1950	10,000	10,000	10,000	10,000	10,000
1951	10,000	10,000	10,000	10,000	10,000
1952	10,000	10,000	10,000	10,000	10,000
1953	10,000	10,000	10,000	10,000	10,000
1954	10,000	10,000	10,000	10,000	10,000

14,000	.2334
20,000	.1523

22	0000	2398
22	0000	2398

22,075	.0000
24,500	.1644

35.0220 .7981

39.000 .0739

42.500 .5710

[illegible]

Year	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
Population	100,000	105,000	110,000	115,000	120,000	125,000	130,000	135,000	140,000	145,000	150,000	155,000	160,000	165,000	170,000	175,000	180,000	185,000	190,000	195,000	200,000	205,000	210,000	215,000	220,000	225,000	230,000	235,000	240,000	245,000	250,000	255,000	260,000	265,000	270,000	275,000	280,000	285,000	290,000	295,000	300,000	305,000	310,000	315,000	320,000	325,000	330,000	335,000	340,000	345,000	350,000	355,000	360,000	365,000	370,000	375,000	380,000	385,000	390,000	395,000	400,000	405,000	410,000	415,000	420,000	425,000	430,000	435,000	440,000	445,000	450,000	455,000	460,000	465,000	470,000	475,000	480,000	485,000	490,000	495,000	500,000	505,000	510,000	515,000	520,000	525,000	530,000	535,000	540,000	545,000	550,000	555,000	560,000	565,000	570,000	575,000	580,000	585,000	590,000	595,000	600,000	605,000	610,000	615,000	620,000	625,000	630,000	635,000	640,000	645,000	650,000	655,000	660,000	665,000	670,000	675,000	680,000	685,000	690,000	695,000	700,000	705,000	710,000	715,000	720,000	725,000	730,000	735,000	740,000	745,000	750,000	755,000	760,000	765,000	770,000	775,000	780,000	785,000	790,000	795,000	800,000	805,000	810,000	815,000	820,000	825,000	830,000	835,000	840,000	845,000	850,000	855,000	860,000	865,000	870,000	875,000	880,000	885,000	890,000	895,000	900,000	905,000	910,000	915,000	920,000	925,000	930,000	935,000	940,000	945,000	950,000	955,000	960,000</								

[illegible]

100

.1200	.1250	.1300	.1400	.1500	.1550	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
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IMI

.000	.1308	.1260	.1175	.1077	.1114	.1061	.1059
10.000				.1438			

25,000	1153
25,500	1704

19.150	.1384	
19.000	0030	

15.500	.0590	.0330
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11.200 .0043

15,490 .0061

6,200 .0051

(C7XB22)

AEDC VA352 CH4B 01 CRB. FUSELAGE

$$\text{MACH} (1) = 0.500 \quad \text{ALPHA} (2) = 35.000$$

SECTION () ORBITER FUSELAGE	DEPENDENT VARIABLE HU/HQ
1	0.0000
2	0.0000
3	0.0000
4	0.0000
5	0.0000
6	0.0000
7	0.0000
8	0.0000
9	0.0000
10	0.0000
11	0.0000
12	0.0000
13	0.0000
14	0.0000
15	0.0000
16	0.0000
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93	0.0000
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95	0.0000
96	0.0000
97	0.0000
98	0.0000
99	0.0000
100	0.0000

[illegible]

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

AEDC VA352 CH4B O1 ORB. FUSELAGE

(CTK822)

MACH (1) = 0.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FHI															
105.000	.0207				.0081				.0035				.0008		.0009
111.000					.0116										
112.000					.0133										
113.000											.0027				
116.000					.0037				.0027		.0035				
135.000	.0031								.0047				.0052		
149.000	.0028				.0034										
160.000															
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
FHI															
.000	.0480	.0459	.0399	.0248	.0100	.1747	.0283	.0505		.1069	.1690	.2239			
21.500			.0436				.0326					.1747			
39.000						.0021									
52.500			.0024												
55.000			.0019												
65.000															
68.000						.0027									
100.000			.0019												
108.000			.0006			.0015									
112.000						.0012									
113.000								.0014							

(CTKL22) (15 JAN 75)

CRB. BOTTOM SURFACE WING

AEDC VA352 CH4B 01

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0500 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3519 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 31 = .523 HREF = .018

SECTION (1) BOTTOM SURF. WING DEFENDENT VARIABLE HU/H0

27/8	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0453	.0245		.3031	.1726	.2440	.0479		.1031	.0620	.0247
.002					.2840			.1832				
.003					.3631			.1844				
.004					.3947			.1709				
.005					.3281			.1572				
.006					.3366			.1302				
.007					.2679			.1186				
.025	.0000			.1754	.3852		.3196					
.050				.1636		.1867	.1903	.2096		.1404		
.100										.1441		
.153	.1092											
.177					.1200							
.200				.1106		.1355						
.299	.0771								.0918	.1295	.1346	
.300				.0938	.1124	.1058						
.302							.1169					
.303						.1197						
.428												
.444	.0589											
.487					.1259							
.500							.1028	.1038		.0893		
.559				.0779								
.590	.0346											
.600					.0845	.0776						
.700				.0723	.0754	.0632	.0490		.0477			
.736	.0582									.0683		
.800						.0429	.0612					
.850						.0727	.0787					
.900	.0395			.0569	.0679	.0661	.0740					.0763

AEDC VA352 CH4B 01 ORB. BOTTOM SURFACE WING (CTK122)

MACH (1) = 0.000 ALPHA (2) = 35.000 T1 = 93.400 Q1 = .523 WREF = .018

SECTION (1) BOTTOM SURF. WING DEFICENT VARIABLE HU/HO

X/C

.001	.0483	.0239	.2686	.2033	.2061	.0408	.0851	.0502	.0292
.002			.3362	.4774	.1553				
.003			.4774	.4853	.1551				
.004			.4853	.4159	.1462				
.005			.4159	.3909	.1293				
.006			.3909	.3218	.1211				
.007			.3218	.2955					
.025	.0000	.1657	.3554						
.050		.1656		.2210	.2100	.2047	.1193		
.100							.1222		
.153	.1217			.1169					
.177		.1149		.1520					
.200	.0869								
.299			.1076	.1071	.1259	.1351	.1212		
.300		.0954							
.302				.1324	.1213				
.303									
.428			.1328						
.444	.0775				.1135	.1143	.0999		
.487									
.500		.0795							
.559			.0868	.0765		.0562			
.590	.0605		.0733	.0711	.0548		.0806		
.600				.0454	.0561				
.700				.0746	.0885				
.736	.0682			.0714	.0835				
.800									
.850		.0609	.0816						
.900	.0563						.0832		

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTKU22) (15 JAN 75)

AEDC VA352 OH4B 01 CRB. UPPER SURFACE WING

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = 10.000 ELEVON = 5.000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 QI = .523 HREF = .018

DEPENDENT VARIABLE HU/HO

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000

X/C

.050 .9011 .0689 .1754
.200 .0000 .0346 .1636
.600 .1092 .0582 .1106
.800 .0395 .0938
.900 .0453 .0779
.950 .0771 .0245 .0723

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 QI = .523 HREF = .018

DEPENDENT VARIABLE HU/HO

SECTION (1) UPPER SURFACE WING

2Y/B .4000 .6000 .8000

X/C

.050 .0024 .0775 .1657
.200 .0000 .0605 .1656
.600 .1217 .0682 .1149
.800 .0363 .0954
.900 .0483 .0795
.950 .0869 .0239 .0733



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

PAGE 287

AEDC VA352 CH48 O1 ORB. LEFT VERTICAL TAIL

(CTKV22) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0349 .0264 .0297 .0207
 .010 .0183
 .100 .0171 .0000 .0162 .0193
 .300 .0073 .0070 .0101 .0134
 .500 .0057 .0080 .0100 .0088
 .700 .0025 .0025 .0034 .0055
 .900 .0021 .0042 .0055

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0288 .0204 .0344 .0317
 .010 .0240
 .100 .0154 .0000 .0140 .0221
 .300 .0063 .0047 .0090 .0175
 .500 .0024 .0064 .0142 .0150
 .700 .0022 .0015 .0020 .0076
 .900 .0028 .0030 .0074

DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

PAGE 288

(CTKR22) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. RCS CENTER

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 Q1 =

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0537 .0214 .0001 .0009 .0030

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 Q1 =

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0497 .0199 .0005 .0019 .0027

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = 10.000 ELEVON = 5.000
HAW/HT = .000

.523 HREF = .018

.523 HREF = .018



DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

PAGE 289

AEDC VA352 OH4B 01 ORB. CMS FOC

(CTKM22) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = .500
 B.FLAP = 19.000 ELEVON = 5.000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) CMS FOC

DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0051 .0132 .0143 .0133 .0055 .0057 .0057
 8.540 .0150
 8.650 .0110
 8.727 .0223
 8.750
 8.855 .0179
 8.942 .0094
 8.978 .0082
 9.056 .0043
 9.118 .0050
 9.222 .0074
 9.275 .0044

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) CMS FOC

DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295 .0024 .0033 .0053 .0068 .0024 .0028 .0018
 8.540 .0039
 8.650 .0035
 8.727 .0072
 8.750
 8.855 .0006
 8.942 .0039
 8.978 .0036
 9.056 .0058
 9.118 .0035
 9.222 .0048
 9.275 .0033

(CTKY22) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 93.400 Q1 = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
Y .875 .1060 .0876 .0752 .0687 .0576 .0573 .0436 .0372

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
Y .875 .1197 .1022 .0863 .0797 .0674 .0668 .0519 .0436

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = 10.000 ELEVON = 5.000
HAW/HT = .000



(CTKC22) (15 JAN 75)

AEDC VA352 OH4B O1 CRB. WING UPPER CREASE

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN. BETA = .000 RN/L = .500
LREF = 22.5803 IN. YMRP = .0000 IN. B.FLAP = 10.000 ELEVON = 5.000
BREF = 16.3919 IN. ZMRP = .0000 IN. HAW/HT = .000
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

FHI

62.000 .0026 .0006 .0014 .0004 .0011

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

FHI

62.000 .0021 .0007 .0009 .0006 .0024

(CTKF22) (15 JAN 75)

AEDC VA352 CH4B 01 CRB. FUSELAGE Z=7.525

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0155 .0127 .0299 .0134 .0054 .0015

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0156 .0177 .0207 .0081 .0035 .0008



TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTK823) (15 JAN 75)

AEDC VA352 CH48 01 CRB. FUSELAGE

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN. BETA = .000 RN/L = .500
 LREF = 22.5803 IN. YMRP = .0000 IN. B.FLAP = 10.000 ELEVON = 10.000
 BREF = 16.3919 IN. ZMRP = .0000 IN. HAW/HT = .000
 SCALE = .0175 SCALE

MACH (1) = 0.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0750 .0800 .0900 .1000

PHI .0000 .4483 .4285 .2788 .2315 .1973 .1698 .1385 .0900 .1165 .1105 .1001 .1174
 10.000 .2146
 14.000 .2030
 20.000 .1052
 22.000 .0801
 24.500 .0449
 35.000 .0284
 42.500 .0341
 48.000 .0600
 60.000 .0284
 119.000 .0159
 180.000 .0550

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

PHI .0963 .0901 .0839 .0784 .0765 .0730 .0722
 10.000 .1010
 20.000 .0959
 25.500 .1078
 40.000 .0850
 45.500 .0608
 131.200 .0076
 145.400 .0080
 146.200 .0152
 156.000 .0184
 159.200 .0238
 170.700 .0123
 173.400 .0184
 180.000 .0238

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI .0084 .0118 .0159 .0172 .0333
 .0677 .0000 .0598 .0603 .0568 .0633 .0634 .0602 .0559 .0577 .0560 .0528
 11.500 .0755

(CTK823)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITTER FUSELAGE DEFENDENT VARIABLE HU/HQ

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0643							
21.500								.0730				.0609			
23.000															
24.000				.0907											
31.500				.1040											
34.000								.0880							
35.000				.1017				.0877							
40.000				.1032				.0852							
45.000															
51.000				.0438				.0130							
57.500												.0039			
59.500								.0246							
61.000								.0251							
65.000								.0187							
70.000															
96.500				.0241								.0129			
105.000								.0150							
106.000								.0039				.0020			
135.000				.0072											
140.000															
141.400	.0079														
151.000			.0209												
180.000				.0131		.0036		.0024				.0052			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0513	.0514	.0483	.0521	.0487	.0502	.0477	.0456	.0435	.0417	.0410	.0381	.0369	.0331	
21.500	.0572				.0471				.0470				.0358		
63.000	.0013														
64.000									.0009				.0003		
65.000					.0020										
105.000	.0299				.0238			.0088					.0038		.0039
111.000															
112.000					.0332										
113.000					.0365										
116.000															
135.000	.0031				.0036			.0056			.0099				
149.000											.0033				
180.000	.0063				.0059			.0058					.0038		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

PHI:



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTR823)

AEDC VA352 CH48 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI	.000	.0308	.0300	.0248	.0132	.0082	.1160	.0157	.0232	.0445	.0676	.0879
21.500				.0304								.1160
39.000							.0013		.0240			
52.500												
55.000				.0010								
65.000				.0010			.0024					
68.000												
100.000				.0018								
108.000				.0037			.0028					
112.000								.0021				
113.000									.0026			

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000	
PHI	.000	.4355	.4323	.3183		.2473	.2188	.1888	.1573	.0000		.1366	.1293	.1209	.1394	
10.000															.1436	
14.000								.2404								.1520
20.000								.2238								.0767
22.000									.1014							
24.500																
35.000																
39.000									.0738							.0517
42.500																
48.000																.0162
60.000									.0350							.0091
119.000				.0404	.0456		.0212			.0135						.1820
180.000																

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

PHI .000 .1160 .1073 .0995 .0926 .0939 .0901 .0899

10.000

10.000

20.000

25.500

40.000

45.500

131.200

145.400

146.200

.0057

.0057

.0072

(CTKB23)

AEDC VA352 CH4B 01 CFB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FHI															
156.000														.0099	.0148
159.200										.0164		.0068			
170.700															
171.900															
173.400															
180.000		.0077			.0076	.0142	.0215				.1077		.0359		
X/L	.1630	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FHI															
.000	.1032			.0832	.0000	.0749	.0759	.0692	.0791	.0773	.0740	.0711	.0701	.0641	.0644
11.500				.0941											
12.000								.0800							
21.500								.0884				.0757			
23.000															
24.000				.1085											
31.500				.1230											
34.000								.1026							
35.000				.1172				.1031							
40.000				.1158				.0988							
45.000															
51.000				.0443				.0108							
57.500											.0029				
59.500								.0208							
61.000								.0226							
65.000								.0209							
70.000															
96.500				.0229							.0147				
105.000															
106.000								.0154							
135.000								.0026				.0018			
140.000				.0047											
141.400	.0053														
151.000		.0117													
160.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
FHI															
.000	.0622	.0596	.0624	.0637	.0602	.0602	.0602	.0566	.0527	.0323	.0509	.0488	.0461	.0421	
21.500	.0679								.0565				.0436		
63.000	.0007				.0573										
64.000									.0007						
65.000															
65.500					.0009									.0005	



DATE 23 JAN 75

TABULATED DATA LISTING FOR OH48 (AEDC VA352)

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(CTK823)

AEDC VA352 OH48 O1 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

PHI

105.000	.0311	.0123	.0051	.0012	.0016
111.000		.0162			
112.000		.0190			
113.000			.0065		
116.000			.0033		
135.000	.0031	.0049	.0030		
149.000			.0046		
180.000	.0047	.0051	.0049		

X/L

PHI

.0000	.0395	.0367	.0319	.0182	.0100	.1674	.0217	.0352	.0700	.1107	.1476
21.500		.0352				.0018	.0317				.1674
39.500											
52.500			.0013								
55.000		.0017									
65.000						.00123					
68.000											
100.000		.0012									
108.000		.0012				.0008					
112.000					.0010						
113.000						.0020					

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 OI = .521 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0800 .0900 .1000

PHI

.000	.0000	.4151	.4276	.2999	.2650	.2357	.2101	.1776	.0000	.1543	.1492	.1382	.1581
10.000								.2549					
14.000													
20.000												.1592	
22.000													.1665
24.500								.0978					
35.000								.0696					.0747
39.000													
42.500													
48.000									.0498				
60.000													
119.000		.0550		.0331			.0144		.0087			.0115	.0576
180.000													

X/L

(CTK823)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 6.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.1356	.1319	.1193	.1109	.1097						.1082	.1065			
10.000				.1549											
20.000				.1244											
25.500				.11402											
40.000				.0932											
45.500				.0583											
131.200									.0045					.0060	
145.400								.0049						.0081	
146.200															.0136
156.000															
159.200															
170.700															
171.900										.0151					
173.400				.0224							.0829	.0424			
180.000	.0075			.0115											
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.1067			.0966	.0900	.0877	.0865	.0828	.0919	.0911	.0862	.0843	.0827	.0792	.0765
11.500				.1077				.0938				.0889			
12.000															
21.500								.1032							
23.000															
24.000				.1211											
31.500				.1351				.1167							
34.000															
35.000				.1325				.1125							
40.000				.1237				.1075							
45.000				.0428											
51.000								.0989				.0023			
57.500															
59.500								.0179							
61.000								.0192							
65.000								.0207							
70.000															
96.500				.0208								.0176			
105.000															
106.000								.0151							
135.000								.0019				.0015			
140.000				.0040											
141.400	.0046														
151.000		.0101		.0138		.0033		.0020				.0031			
180.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290

(CTKL23) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. BOTTOM SURFACE WING

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 T1 = 93.433 Q1 = .521 HREF = .018

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE MU/HO

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0446	.0248	.3374	.1837	.2537	.0563	.1162	.0653	.0229
.002				.2435		.2025			
.003				.3597		.1928			
.004				.3131		.1786			
.005				.2829		.1610			
.006				.2541		.1335			
.007				.2070		.1194			
.025	.0505	.1987	.4083		.3529				
.050		.1625		.1456	.1788	.2151	.1504		
.100	.0960						.1510		
.153			.1184						
.177		.1034		.0949					
.200	.0684								
.299			.1147	.0843		.1066	.1260	.1294	
.300		.0859							
.302					.0920				
.303				.0968					
.428	.0604								
.444			.1056						
.487		.0726			.0932	.0879	.1015		
.500									
.559									
.590	.0471								
.600			.0914	.0783			.0554		
.700		.0685	.0792	.0568	.0412			.0551	
.736	.0509								
.800				.0449	.0559				
.850				.0908	.0966				
.900	.0751	.0763	.0990	.0886	.0915				.1024

PARAMETRIC DATA

BETA = .000 RN/L = .500
B-FLAP = 10.000 ELEVON = 10.000
HAN/HT = .000



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

AEDC VA352 OH4B 01 CRB. BOTTOM SURFACE WING (CTRL23)

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE HU/HO

Z/Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9650 .9930

X/C

.001	.0459	.0243	.3048	.1715	.2297	.0482	.1028	.0614	.0175
.002			.2287	.1838					
.003			.3689	.1847					
.004			.3967	.1714					
.005			.3329	.1594					
.006			.3371	.1313					
.007			.2709	.1197					
.025			.1790	.3889	.3232				
.050			.1635	.1839	.1946	.2136	.1420		
.100							.1454		
.153			.1088						
.177				.1213					
.200			.1097	.1362					
.299			.0775						
.300				.1103	.1041	.0998	.1318	.1373	
.302			.0931						
.303					.1132				
.428				.1187					
.444				.1176					
.487					.1016	.1071	.0918		
.500			.0751						
.559									
.590			.0534			.0510			
.600				.0845	.0764				
.700			.0732	.0754	.0604	.0491	.0551		
.736									
.800				.0395	.0640				
.850				.0923	.1122				
.900			.0801	.1034	.0900	.1074	.1083		

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE HU/HO

Z/Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9650 .9930

X/C

.001	.0482	.0237	.2700	.2005	.2074	.0418	.0877	.0491	.0215
.002			.3370	.1569					
.003			.4703	.1587					
.004			.4875	.1541					
.005			.4195	.1443					
.006			.3867	.1297					
.007			.3195	.1190					
.025			.1637	.3533	.2964				

(CTKL23)

MACH (1) = 0.000 ALPHA (3) = 35.000

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE HU/HO

24/B	.2500	.3015	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050				.1641		.2186	.2093	.2011		.1212		
.100										.1238		
.153	.1188				.1187							
.177				.1143		.1529						
.200												
.299	.0855				.1055	.1095		.1211	.1341	.1268		
.300				.0968								
.302							.1237					
.303						.1341						
.428	.0760											
.444					.1331							
.467							.1153	.1178		.1025		
.500												
.559				.0797								
.590	.0618											
.600					.0860	.0751			.0582			
.700				.0734	.0739	.0645	.0545			.0590		
.736	.0676											
.800						.0354	.0673					
.850						.0916	.1193					
.900	.1005			.0801	.1035	.0903	.1196			.1022		



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

AEDC VA352 CH4B 01 CRB. UPPER SURFACE WING (CTK023) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0010 .0604 .1987
 .200 .0505 .0471 .1625
 .600 .0960 .0509 .1034
 .800 .0751 .0859
 .900 .0446 .0726
 .950 .0684 .0248 .0685

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0013 .0691 .1790
 .200 .0513 .0554 .1635
 .600 .1088 .0574 .1097
 .800 .0900 .0931
 .900 .0459 .0751
 .950 .0775 .0243 .0732

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0011 .0760 .1657
 .200 .0496 .0618 .1641
 .600 .1188 .0676 .1143
 .800 .1003 .0968
 .900 .0482 .0797
 .950 .0855 .0237 .0734

(CTKV23) (15 JAN 75)

CRB. LEFT VERTICAL TAIL

AEDC VA352 CH4B 01

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = 10.000 ELEVON = 10.000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HG

Z/BV .1590 .2990 .5320 .7650 .9050

X/C
.000 .0540 .0440 .0516 .0510
.010 .0248
.100 .0166 .0168 .0204 .0240
.300 .0084 .0072 .0091 .0130
.500 .0070 .0066 .0084 .0075
.700 .0033 .0034 .0037 .0047
.900 .0037 .0052 .0048

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HG

Z/BV .1590 .2990 .5320 .7650 .9050

X/C
.000 .0357 .0256 .0292 .0205
.010 .0176
.100 .0163 .0148 .0166 .0202
.300 .0072 .0061 .0100 .0139
.500 .0049 .0083 .0100 .0088
.700 .0024 .0022 .0030 .0050
.900 .0016 .0044 .0051

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HG

Z/BV .1590 .2990 .5320 .7650 .9050

X/C
.000 .0285 .0214 .0347 .0308
.010 .0247
.100 .0155 .0122 .0130 .0234
.300 .0059 .0049 .0083 .0177
.500 .0030 .0060 .0138 .0142
.700 .0018 .0018 .0017 .0071
.900 .0033 .0036 .0071



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKR23) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. RCS CENTER

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

BETA = .000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z
 6.125 .0550 .0251 .0003 .0010 .0024

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z
 6.125 .0517 .0226 .0005 .0017 .0023

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z
 6.125 .0498 .0192 .0003 .0011 .0017

(CTKH23) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. CMS PCD

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI =

.521 HREF = .018

SECTION (1) CMS PCD

DEPENDENT VARIABLE HU/HQ

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0103	.0266	.0430	.0385	.0139	.0128	.0094
8.540		.0331					
8.650		.0250					
8.727		.0625					
8.750				.0335	.0000	.0155	
8.855			.0195				
8.942					.0167		
9.056				.0032			
9.118				.0089			
9.222					.0068		
9.275					.0034		

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI =

.521 HREF = .018

SECTION (1) CMS PCD

DEPENDENT VARIABLE HU/HQ

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0050	.0138	.0158	.0153	.0057	.0056	.0046
8.540		.0162					
8.650		.0111					
8.727		.0251					
8.750				.0202	.0000	.0057	
8.855			.0091				
8.942					.0089		
8.978				.0039			
9.056				.0048			
9.118					.0081		
9.222					.0044		
9.275							

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKH23)

AEDC VA352 CH4B 01 ORB. CMS POD

MREF = .018

T1 = 93.433 01

=

.521

MACH (1) = 8.000 ALPHA (3) = 35.000

DEPENDENT VARIABLE HJ/HQ

SECTION (1) CMS POD

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.895	.0023	.0034	.0038	.0066	.0013	.0091	.0140
8.940		.0042					
8.950		.0037					
8.927			.0075				
8.750				.0000			.0060
8.855			.0085				
8.942			.0039				
8.978				.0034			
9.056			.0056				
9.118			.0033				
9.222				.0050			
9.275				.0033			

AEDC VA352 OH4B 01 ORB. FUSELAGE Y=0.875

(CTKY23) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI =

.521 HREF = .018

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0907 .0730 .0609 .0572 .0471 .0470 .0358 .0304

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI =

.521 HREF = .018

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1085 .0884 .0757 .0679 .0573 .0565 .0436 .0352

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 QI =

.521 HREF = .018

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1211 .1032 .0889 .0808 .0662 .0684 .0526 .0431

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .000



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKC23) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. WING UPPER CREASE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 T1 = 93.433 Q1 = .521 HREF = .018

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

FH1

62.000 .0039 .0013 .0020 .0009 .0010

MACH (1) = 8.000 ALPHA (2) = 30.000 T1 = 93.433 Q1 = .521 HREF = .018

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

FH1

62.000 .0029 .0007 .0009 .0007 .0013

MACH (1) = 8.000 ALPHA (3) = 35.000 T1 = 93.433 Q1 = .521 HREF = .018

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

FH1

62.000 .0023 .0007 .0009 .0005 .0011

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .000

(CTKF23) (15 JAN 75)

AEDC VA352 CH4B 01 CRB. FUSELAGE Z=7.525

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = 10.000 ELEVON = 10.000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 T1 = 93.433 Q1 = .521 HREF = .018

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0150 .0129 .0299 .0238 .0086 .0038

MACH (1) = 8.000 ALPHA (2) = 30.000 T1 = 93.433 Q1 = .521 HREF = .018

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0154 .0147 .0311 .0123 .0051 .0012

MACH (1) = 8.000 ALPHA (3) = 35.000 T1 = 93.433 Q1 = .521 HREF = .018

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0151 .0176 .0201 .0068 .0034 .0005



(CTK824)

AEDC VA352 CH4B O1 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0701						.0000	
21.500								.0000							
23.000															
24.000				.0000											
31.500				.1165											
34.000								.0984							
35.000				.1219											
40.000				.1328				.1027							
45.000								.1119							
51.000															
57.500				.0689				.0313							
59.500												.0114			
61.000								.0486							
65.000								.0391							
70.000								.0272							
96.500				.0345								.0184			
105.000								.0209							
106.000								.0052				.0024			
135.000															
140.000				.0000											
141.400															
151.000			.0000												
180.000				.0140		.0079		.0020				.0041			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
21.500		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
63.000		.0034			.0000				.0000	.0000	.0000	.0000	.0000	.0000	
64.000															
65.000									.0024				.0027		
65.500					.0042										
105.000	.0286				.0474				.0446				.0158		.0143
111.000															
112.000					.0351										
113.000					.0326										
116.000											.0587				
135.000	.0033				.0040				.0051						
149.000											.0030				
180.000	.0044				.0050				.0047				.0029		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

PHI:

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTK824)

AEDC VA352 CH4B O1 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
63.000	.0014														
64.000									.0010						
65.000													.0006		
65.500	.0031				.0016			.0106					.0048		.0058
105.000					.0224										
111.000					.0365										
112.000					.0432						.0157				
113.000											.0043				
116.000	.0034				.0058			.0062							
135.000					.0030			.0039					.0053		
149.000	.0027														
180.000															
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000			
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000			
39.000															
52.500						.0026							.2738		
55.000															
65.000	.0030														
65.000	.0022														
68.000															
100.000	.0030					.0027									
108.000	.0051					.0044									
112.000							.0035								
113.000								.0038							

DATE 23 JAN 75

(CTKL24) (15 JAN 75)

AEDC VA352 CH48 O1 CRB. BOTTOM SURFACE WING

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 S.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 53.233 Q1 = .523 HREF = .018

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE MU/HQ

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0628	.0380	.3814	.2119	.3009	.0628	.1535	.0911	.0310
.002			.3133	.4292	.2231				
.003			.3878	.3500	.1732				
.004			.3056	.1370	.1221				
.005			.2525	.4055					
.006			.2684	.4511					.1974
.007			.1862	.1838	.1957	.2200			.1986
.008									
.009			.1152	.1287					
.010			.1185	.0802	.1137	.1202	.1307		
.011			.0940		.1058				
.012				.1037					
.013			.1022		.0795	.1021	.1003		
.014			.0833						
.015			.0861	.0767			.0566		
.016			.0802	.0720	.0356		.0536		
.017				.0494	.0645				
.018				.0928	.0937				
.019			.0895	.0834	.0918	.0853			.0931
.020									
.021									
.022									
.023									
.024									
.025									
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.028									
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.090									



AEDC VA352 CH4B O1 ORB. BOTTOM SURFACE WING (CTKL24)

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) BOTTOM SURF. WING DEFENDENT VARIABLE HU/HD

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0603	.0332		.3682	.1919	.2919	.0542		.1328	.0772	.0261
.002					.2955			.2256				
.003					.4381			.2191				
.004					.3957			.1973				
.005					.3609			.1732				
.006					.3020			.1415				
.007					.2511			.1304				
.025	.0736			.2375	.4564		.3984					
.050												
.100				.1870		.1976	.2041	.2285		.1754		
.153	.1272									.1787		
.177					.1445							
.200				.1236		.1288						
.299	.0875											
.300					.1275	.0859		.1255	.1425	.1557		
.302				.1035								
.303							.0926					
.428					.1073							
.444	.0813											
.487					.1176							
.500							.1062	.1239		.1230		
.559				.0890								
.590	.0639											
.600					.0935	.0905			.0575			
.700				.0847	.0797	.0643	.0493					
.736	.0699									.0576		
.800						.0552	.0483					
.850						.1017	.1066					
.900	.1112			.0982	.0883	.0994	.0963			.1044		

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) BOTTOM SURF. WING DEFENDENT VARIABLE HU/HD

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0602	.0312		.3076	.1708	.2276	.0489		.1081	.0706	.0239
.002					.2645			.1799				
.003					.4078			.1837				
.004					.3979			.1758				
.005					.3609			.1663				
.006					.3308			.1433				
.007					.2804			.1310				
.025	.0707			.2093	.4137		.3212					

(CTRL24)

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE HU/HQ

XY/Z	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050				.1874		.2084	.2128	.2344		.1512		
.100										.1563		
.153	.1412											
.177				.1309	.1449	.1400						
.200												
.299	.0946											
.300				.1235	.0984		.1027	.1507	.1464			
.302				.1121			.1210					
.303						.1144						
.428												
.444	.0867				.1210		.1135	.1142		.1040		
.487												
.500				.0908								
.559												
.590	.0674				.1042	.1001		.0508				
.600				.0843	.0848	.0651	.0534			.0445		
.700												
.736	.0773					.0463	.0635					
.800						.1097	.1169					
.850						.1089	.1082					
.900	.1276			.0993	.0883					.1056		



AEDC VA352 OH4B 01 ORB. LEFT VERTICAL TAIL (CTKV24) (15 JAN 75)

REFERENCE DATA

SRF = .8238 SQ.FT. XMRP = .0000 IN.
 LRF = 22.5803 IN. YMRP = .0000 IN.
 BRP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAF = 10.000 ELEVON = 10.000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0469 .0251 .0237 .0485
 .010 .0513
 .100 .0152 .0133 .0107 .0303
 .300 .0084 .0094 .0099 .0190
 .500 .0104 .0086 .0113 .0181
 .700 .0053 .0030 .0041 .0075
 .900 .0041 .0036 .0076

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0209 .0087 .0323 .0495
 .010 .0451
 .100 .0172 .0105 .0125 .0362
 .300 .0099 .0088 .0083 .0217
 .500 .0071 .0092 .0160 .0149
 .700 .0029 .0036 .0059 .0096
 .900 .0039 .0096 .0095

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0065 .0314 .0319 .0261
 .010 .0321
 .100 .0100 .0105 .0445 .0362
 .300 .0058 .0094 .0231 .0243
 .500 .0145 .0240 .0261 .0133
 .700 .0014 .0046 .0093 .0142
 .900 .0048 .0124 .0116

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTKR24) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. RCS CENTER

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
B.FLAP = 10.000 ELEVON = 10.000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.233 Q1 = .523 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0733 .0391 .0027 .0045 .0044

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.233 Q1 = .523 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0699 .0418 .0010 .0012 .0021

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.233 Q1 = .523 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0662 .0373 .0006 .0022 .0027



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTK424) (15 JAN 75)

AEDC VA352 CH48 01 ORB. CMS FOD

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

BETA = -5.000 RM/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.233 Q1 = .523 HREF = .018

SECTION (1) CMS FOD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0516	.1848	.1238	.0811	.0338	.0382	.0324
8.540		.1376					
8.650		.0739					
8.727			.0916				
8.750				.0000	.0130		
8.855				.0431			
8.942			.0280		.0159		
8.978				.0045			
9.056				.0087			
9.118					.0070		
9.222					.0037		
9.275							

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.233 Q1 = .523 HREF = .018

SECTION (1) CMS FOD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0254	.0998	.0963	.0717	.0604	.0536	.0432
8.540		.1071					
8.650		.0562					
8.727			.1037				
8.750				.0000	.0186		
8.855				.0344			
8.942			.0270				
8.978				.0140			
9.056				.0043			
9.118				.0099			
9.222				.0052			
9.275				.0041			

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTKM24)

AEDC VA352 OH4B O1 CRB. CMS FOD

MACH (1) = 0.000 ALPHA (3) = 35.000 T1 = 93.233 Q1 = .523 MREF = .010

DEPENDENT VARIABLE HU/HO

SECTION (1) CMS FOD

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295	.0179	.0725	.0835	.0727	.0213	.0204	.0175
8.540		.0721					
8.650		.0381					
8.727			.0633				
8.750					.0000		.0190
8.855				.0268			
8.942		.0236					
8.978					.0199		
9.056				.0042			
9.118				.0088			
9.222					.0043		
9.275					.0028		



DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTKC24) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. WING UPPER CREASE

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

FHI
 62.000 .0114 .0034 .0042 .0024 .0028

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

FHI
 62.000 .0067 .0019 .0024 .0015 .0013

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

FHI
 62.000 .0045 .0014 .0016 .0010 .0030

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

AEDC VA352 OH4B 01 ORB. FUSELAGE Z=7.525 (CTKF24) (15 JAN 75)

REFERENCE DATA

SRF = .8238 SQ.FT. XMRP = .0000 IN.
 LRF = 22.5803 IN. YMRP = .0000 IN.
 BRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0209 .0184 .0286 .0474 .0446 .0158

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0209 .0199 .0396 .0511 .0169 .0062

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0217 .0224 .0531 .0224 .0106 .0048

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTR825) (15 JAN 75)

AEDC VA352 OH4B O1 CRB. FUSELAGE

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN. BETA = .000 RN/L = 2.000
 LREF = 22.5803 IN. YMRP = .0000 IN. B.FLAP = 10.000 ELEVON = 10.000
 BREF = 16.3919 IN. ZMRP = .0000 IN. HAM/HT = .000

SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 94.650 Q1 = 1.985 HREF = .035

DEPENDENT VARIABLE HU/HO

SECTION (1) ORBITER FUSELAGE

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0750 .0760 .0800 .0900 .1000

FHI
 .000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 10.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 14.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 20.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 22.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 24.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 35.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 39.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 42.500 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 48.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 60.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 119.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156
 180.000 .0000 .4167 .4184 .2875 .2406 .2094 .1814 .1540 .0000 .1332 .1316 .1156

X/L .1200 .1250 .1300 .1400 .1500 .1600 .1670 .1700 .1780 .1800 .1810 .1820

FHI
 .000 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 10.000 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 20.000 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 25.500 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 40.000 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 45.500 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 131.200 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 145.400 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 146.200 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 156.000 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 159.200 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 170.700 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 171.900 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 173.400 .1122 .1015 .0981 .0913 .0907 .0889 .0882
 180.000 .1122 .1015 .0981 .0913 .0907 .0889 .0882

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FHI
 .000 .0836 .0819 .0800 .0760 .0745 .0734 .0693 .0662 .0620
 11.500 .0836 .0819 .0800 .0760 .0745 .0734 .0693 .0662 .0620

(CTK825)

AEDC VA352 CH4B O1 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FHI															
12.000								.0792							
21.500								.0892				.0737			
23.000															
24.000				.1060											
31.500			.1216												
34.000				.1176				.1001							
35.000				.1129				.0919							
40.000								.0906							
43.000															
51.000				.0376				.0105				.0025			
57.500															
59.500								.0209				.0109			
61.000								.0223				.0010			
65.000								.0251							
70.000				.0207											
96.500															
105.000								.0154							
106.500								.0017							
135.000				.0049											
140.000															
141.400	.0053		.0169			.0031		.0030				.0074			
151.000															
180.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FHI															
.000	.0612	.0608	.0610	.0613	.0613	.0604	.0615	.0605	.0581	.0590	.0618	.0597	.0663	.0684	
21.500	.0642				.0529								.0612		
63.000	.0007								.0593						
64.000									.0006						
65.000					.0009								.0004		
65.500					.0211				.0063						
105.000															
111.000	.0317														
112.000					.0381										
113.000					.0423										
116.000															
135.000	.0017				.0027			.0045			.0097				
149.000											.0050				
180.000	.0074				.0061			.0050					.0017		.0024
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

PH:

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTK825)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 0.000 ALPHA (1) = 30.000

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0500	.0750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
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PHI	.000	.0710	.0722	.0712	.0746	.0695	.3656	.1799	.3025	.3690	.3898	.3873
21.500				.0770								
39.000							.2671					.3656
52.500							.0034					
55.000				.0015								
65.000				.0016								
68.000							.0020					
100.000				.0024								
108.000				.0019			.0020					
112.000							.0017					
113.000							.0022					

MACH (1) = 0.000 ALPHA (2) = 35.000 TI = 94.650 Q1 = 1.985 HREF = .035

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.1000
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PHI	.000	.0000	.4045	.4186	.2969	.2651	.2298	.2025	.1720	.0000	.1474	.1425	.1320
10.000													.1511
14.000								.2527					.1568
20.000								.2378					.1616
22.000								.0929					.0703
24.500								.1682					
35.000								.0243					.0102
39.000								.0125			.0080		.0094
42.500													
48.000													
60.000													
119.000													
180.000				.0757	.0289			.0125					

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1670	.1690	.1700	.1780	.1810	.1820
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PHI	.000	.1284	.1185	.1128	.1036	.1058							
10.000					.1385					.1030			.1030
20.000					.1219								
25.500					.1378								
40.000					.0930								
45.500					.0567								
131.200								.0049					
145.400													.0076
146.200													

.0104

AEDC VA352 OH48 O1 ORB, FUSELAGE (CTR025)

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1670 .1690 .1700 .1780 .1800 .1810 .1820

PHI

156.000
159.200
170.700
171.900
173.400
180.000

X/L

.1630 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

.000
11.500
12.000
21.500
23.000
24.000
31.500
34.000
35.000
40.000
45.000
51.000
57.500
59.500
61.000
65.000
70.000
96.500
105.000
106.000
135.000
149.000
141.400
151.000
180.000

.0973 .0950 .0879 .0806 .0925 .0871 .0863 .0862 .0824 .0763 .0749

.1036 .1012 .1152 .1017 .1040 .0689 .0189 .0206 .0213 .0150 .0013 .0019 .0169 .0010 .0014

.1223 .1350 .1280 .1222 .0398 .0215 .0049 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

.0082 .0116 .0160 .0029 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019 .0019

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTK825)

AEDC VA352 OH4B O1 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITTER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0306				.0109				.0044				.0009		.0007
111.000					.0198										
112.000					.0225										
113.000											.0037				
116.000					.0024				.0045						
135.000	.0016										.0062				
149.000					.0015				.0017						.0029
180.000	.0014														

PHI

.0306

105.000

111.000

112.000

113.000

116.000

135.000

149.000

180.000

X/L

PHI

.1017

21.500

39.000

52.500

55.000

65.000

68.000

100.000

108.000

112.000

113.000

.1010

.1011

.0014

.0013

.0005

.0008

.1027

.1058

.3469

.3469

.0043

.0028

.0026

.0027

.0034

.0016

.1016

.3469

.2280

.3769

.4213

.4090

.3933

.3469

(CTKL25) (15 JAN 75)

AEDC VA352 CH48 01 ORB. BOTTOM SURFACE WING

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 Q1 = 1.985 HREF = .035

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE HU/HG

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0430	.0239	.2963	.1624	.2161	.0493	.0984	.0591	.0511
.002				.2635		.1768			
.003				.3555		.1809			
.004				.3795		.1716			
.005				.3216		.1592			
.006				.3274		.1475			
.007				.2658		.1387			
.025	.0491		.1710	.3822		.3156			.1333
.050			.1619		.1808	.2313	.2232		.1397
.100	.1083								
.153									
.177									
.200			.1114		.1095				
.299	.0752								
.300									
.302			.0918		.1085	.1153	.3351	.2104	.1630
.303									
.428						.1123			
.444	.0629								
.487						.0941			
.500			.0763				.1037	.3451	.1886
.559									
.590	.0487								
.600									
.700			.0729	.0786	.0425	.0462			.1550
.736	.0718								.1963
.800						.0381	.0582		
.850						.1097	.1266		
.900	.1388		.1197	.1428	.1068	.1201			.2478

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .000

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKL25)

AEDC VA352 CH4B O1 ORB. BOTTOM SURFACE WING

MACH (1) = 0.000 ALPHA (2) = 35.000 TI = 94.650 Q1 = 1.985 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0436	.0235	.2585	.1965	.1841	.0388	.1008	.0734	.0654
.002				.3216		.1498			
.003				.4627		.1603			
.004				.4790		.1510			
.005				.4172		.1605			
.006				.3851		.1379			
.007				.3151		.1373			
.025	.0483		.1580	.3499	.2729		.1563		
.050			.1635	.2140	.2028	.2668	.1743		
.100									
.153	.1117								
.177			.1076						
.200		.1124		.1509					
.299	.0848								
.300			.1017	.1170	.1652	.3674	.2795		
.302		.0964							
.303					.1135				
.428				.1382					
.444	.0717								
.487			.1327		.1110	.1141	.2453		
.500									
.559		.0882							
.590	.0614		.0888	.0758					
.600		.0874	.0779	.0494	.0544	.0770	.1912		
.700									
.736	.0971			.0407	.0682				
.800				.1307	.1412				
.850									
.900	.1610	.1794	.1480	.1583	.1342		.2264		

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTK025) (15 JAN 75)

CRB. UPPER SURFACE WING

AEDC VA352 CH4B 01

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
B.FLAP = 10.000 ELEVON = 10.000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 94.650 Q1 = 1.985 HREF = .035

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0015 .0629 .1710
.200 .0491 .0487 .1619
.600 .1083 .0718 .1114
.800 .1388 .0918
.900 .0430 .0763
.950 .0752 .0239 .0729

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 94.650 Q1 = 1.985 HREF = .035

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0014 .0717 .1580
.200 .0483 .0614 .1635
.600 .1117 .0971 .1124
.800 .1610 .0964
.900 .0436 .0882
.950 .0846 .0235 .0874



TABULATED DATA LISTING FOR CH48 (AEDC VA332)

DATE 23 JAN 75

(CTKV25) (15 JAN 75)

AEDC VA332 CH48 01 ORB. LEFT VERTICAL TAIL

REFERENCE DATA

SREF = .8238 50.FT. XMRP = .0000 IN. BETA = .000 RN/L = 2.000
 LREF = 22.5803 IN. YMRP = .0000 IN. B.FLAP = 10.000 ELEVON = 10.000
 BREF = 16.3919 IN. ZMRP = .0000 IN. HAW/HT = .000
 SCALE = .0175 SCALE

PARAMETRIC DATA

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/H0

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0118 .0120 .0209 .0275
 .010 .0266
 .100 .0158 .0091 .0110 .0176
 .300 .0087 .0061 .0078 .0138
 .500 .0052 .0083 .0130 .0132
 .700 .0032 .0015 .0036 .0087
 .900 .0018 .0048 .0093

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/H0

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0198 .0310 .0512 .0412
 .010 .0221
 .100 .0154 .0096 .0287 .0253
 .300 .0077 .0047 .0214 .0259
 .500 .0030 .0216 .0289 .0150
 .700 .0020 .0014 .0059 .0130
 .900 .0028 .0051 .0111

(CTKR25) (15 JAN 75)

AEDC VA332 CH4B 01 ORB. RCS CENTER

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

PARAMETRIC DATA

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 Q1 = 1.985 HREF = .035

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HG

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0519 .0223 .0004 .0016 .0020

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 Q1 = 1.985 HREF = .035

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HG

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0475 .0206 .0005 .0013 .0028



(CTKM25) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. OMS FOD

PARAMETRIC DATA

REFERENCE DATA

BETA = .000 RV/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .000

3REF = .0238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) OMS FOD DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z
 8.295 .0061 .0270 .0353 .0280 .0068 .0051 .0046
 8.540 .0364
 8.650 .0270
 8.727 .0502
 8.750
 8.855 .0299
 8.942 .0202
 8.978 .0131
 9.056 .0076
 9.118 .0058
 9.222 .0053
 9.275 .0039

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) OMS FOD DEPENDENT VARIABLE HU/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z
 8.295 .0059 .0045 .0041 .0070 .0041 .0109 .0165
 8.540 .0070
 8.650 .0110
 8.727 .0069
 8.750
 8.855 .0062
 8.942 .0081
 8.978 .0081
 9.056 .0112
 9.118 .0051
 9.222 .0038
 9.275 .0039

(CTKY25) (15 JAN 75)

AEDC VA352 OH4B 01 CRB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5603 IN. YMRP = .0000 IN.
 BRP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000	.9000
Y	.875	.1060	.0892	.0737	.0642	.0529	.0593	.0612

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000	.9000
Y	.875	.1223	.1012	.0843	.0759	.0638	.0766	.0823

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTKC25) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. WING UPPER CREASE

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 94.650 Q1 = 1.985 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0025 .0007 .0009 .0006 .0015

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 94.650 Q1 = 1.985 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .4000 .5000 .6000 .7000 .9000

PHI
 62.000 .0019 .0005 .0006 .0008 .0014

PARAMETRIC DATA
 BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

(CTKF25) (15 JAN 75)

AEDC VA352 OH4B 01 CRB. FUSELAGE Z=7.525

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HG

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0154 .0109 .0317 .0211 .0063 .0017

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HG

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0150 .0169 .0306 .0109 .0044 .0009

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000



(CTK826)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 0.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

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X/L

PHI

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21.500

63.000

64.000

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105.000

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112.000

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DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTK826)

AEDC VA352 CH48 O1 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000

21.500

39.000

52.500

55.000

65.000

68.000

100.000

108.000

112.000

113.000

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MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.450 QI = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .9000 .9050 .9100 .9200 .9250 .9300 .9400 .9500 .9600 .9700 .9750 .9800 .9900 .1000

PHI

.000

10.000

14.000

20.000

22.000

24.500

35.000

39.000

42.500

48.000

60.000

119.000

180.000

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(CTK826)

AEDC VA352 CH48 O1 OR8, FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI															
156.000														.0000	.0000
159.200															.0000
170.700															.0000
171.900															.0000
173.400															.0000
180.000															.0000

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
11.500															.0000
12.000															.0000
21.500															.0000
23.000															.0000
24.000															.0000
31.500															.0000
34.000															.0000
35.000															.0000
40.000															.0000
45.000															.0000
51.000															.0000
57.500															.0000
59.500															.0000
61.000															.0000
65.000															.0000
70.000															.0000
96.500															.0000
105.000															.0000
106.000															.0000
135.000															.0000
140.000															.0000
141.400															.0000
151.000															.0000
180.000															.0000

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
21.500															.0000
63.000															.0000
64.000															.0000
65.000															.0000
65.500															.0000



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTR826)

AEDC VA352 CH48 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PH1															
105.000	.0348			.0722				.0193					.0081		.0114
111.000					.0657										
112.000					.0539										
113.000										.0435					
116.000					.0035			.0052							
135.000	.0021									.0070					
149.000															
180.000	.0022			.0023				.0029					.0028		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PH1															
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000			
21.500															
39.000															
52.500															
55.000			.0033			.0063	.3679						.3865		
65.000			.0036												
68.000						.0090									
100.000			.0056												
108.000			.0099			.0049									
112.000						.0042									
113.000								.0053							

(CTL26) (15 JAN 75)

AEDC VA332 CH48 C1 ORB. BOTTOM SURFACE WING

REFERENCE DATA

SREF = .0236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 SREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RM/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

MACH (1) = 0.000 ALPHA (1) = 30.000 TI = 95.450 Q1 = 1.983 HREF = .035

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9650	.9930
X/Z												
.001	.0612	.0314			.3580	.1849	.2813	.0516		.1269	.0749	.0246
.002						.2673		.2222				
.003						.4290		.2146				
.004						.3905		.1917				
.005						.3538		.1704				
.006						.3012		.1387				
.007						.2499		.1264				
.025	.0735		.2354	.4506		.3887				.1680		
.050			.1856		.1970	.2087		.2262		.1752		
.100												
.153	.1294											
.177					.1382							
.200			.1210			.1316						
.299	.0873											
.300									.1161	.1372	.1468	
.302			.0976		.1276	.0940						
.303							.3150					
.428					.1065							
.444	.0758											
.487				.1120								
.500							.2016	.2319		.1160		
.559			.0853									
.590	.0593				.0900	.0869						
.600		.0827	.0773	.0570	.0654				.0651			
.700											.0479	
.736	.0738											
.800					.0489	.1013						
.850					.1148	.1509						
.900	.1399		.1224	.0988	.1057	.1190						.1369



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

AEDC VA352 OH4B O1 CRB. BOTTOM SURFACE WING (CTKL26)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.450 Q1 = 1.983 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/H0

21/B

.2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0569	.0324	.2974	.1659	.2189	.0472	.1057	.0673	.0536
.002			.2554	.1825	.1777				
.003			.3955	.1732					
.004			.3928	.1652					
.005			.3570	.1452					
.006			.3282	.1372					
.007			.2790						
.025	.0699		.3970	.3148			.1469		
.050			.1845	.2030	.2068	.2281	.1539		
.100	.1367								
.153			.1324						
.177			.1278						
.200									
.299	.0917		.1229	.1041		.3190	.1896	.1581	
.300									
.302			.1073						
.303					.1210				
.428				.1147					
.444	.0808								
.487			.1181						
.503					.1078	.3437		.1756	
.559			.0847						
.590	.0616								
.603			.1032	.0975			.1433		
.700			.0839	.0855	.0501			.1827	
.736	.0807								
.800				.0477	.0449				
.850				.1192	.1273				
.900	.1655		.1178	.1068	.1157	.1205		.2443	

AEDC VA352 CH4B 01 GRB. LEFT VERTICAL TAIL (CTKV26) (15 JAN 75)

REFERENCE DATA

SRCF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BRFF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 95.450 Q1 = 1.983 HREF = .035

SECTION (1) LEFT VERTICAL TAIL

DEPENDENT VARIABLE HU/HQ

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0143 .0226 .0508 .0832
 .010 .0174 .0104 .0327 .0354
 .100 .0092 .0087 .0526 .0234
 .300 .0096 .0403 .0311 .0102
 .500 .0025 .0026 .0130 .0161
 .700 .0037 .0149 .0131

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 95.450 Q1 = 1.983 HREF = .035

SECTION (1) LEFT VERTICAL TAIL

DEPENDENT VARIABLE HU/HQ

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0095 .0246 .0184 .0122
 .010 .0119 .0162 .0420 .0328
 .100 .0055 .0104 .0493 .0331
 .300 .0123 .0406 .0236 .0226
 .500 .0022 .0056 .0115 .0115
 .700 .0050 .0114 .0105

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKR26) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. RCS CENTER

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HQ

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.450 QI = 1.983 HREF = .035

X/L .0760 .3000 .8000 .9000 .9750
 Z 6.125 .0673 .0451 .0011 .0048 .0127

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.450 QI = 1.983 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0643 .0416 .0020 .0036 .0090

(CTK426) (15 JAN 75)

AEDC VA352 CH4B 01 CRP. CMS FOD

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.450 QI = 1.983 HREF = .035

SECTION (1) CMS FOD

DEPENDENT VARIABLE HU/HQ

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0556	.1435	.0864	.0369	.0180	.0194	.0159
8.540		.1053					
8.650		.0604					
8.727			.0778				
8.750					.0000	.0082	
8.855				.0357			
8.942				.0233			
8.978					.0115		
9.056				.0078			
9.118				.0079			
9.222					.0073		
9.275					.0049		

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.450 QI = 1.983 HREF = .035

SECTION (1) CMS FOD

DEPENDENT VARIABLE HU/HQ

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0764	.1549	.0643	.0451	.0447	.0388	.0299
8.540		.1010					
8.650		.0568					
8.727			.0666				
8.750					.0000	.0165	
8.855			.0211				
8.942			.0219				
8.978					.0107		
9.056			.0074				
9.118			.0077				
9.222					.0044		
9.275					.0040		



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKC26) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. WING UPPER CREASE

PARAMETRIC DATA

REFERENCE DATA

BETA = -5.000 RN/L = 2.000
B.FLAP = 10.000 ELEVON = 10.000
HAW/HT = .000

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.450 QI = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
62.000 .0076 .0025 .0032 .0018 .0019

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.450 QI = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
62.000 .0046 .0015 .0023 .0014 .0033

AEDC VA352 OH4B 01 ORB. FUSELAGE Z=7.525 (CTKF26) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.450 Q1 = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/H0

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0205 .0183 .0288 .0618 .0448 .0113

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.450 Q1 = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/H0

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0210 .0186 .0348 .0722 .0193 .0081

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000



DATE 23 JAN 75
TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTK827) (15 JAN 75)

AEDC VA352 CH4B 01 CRB. FUSELAGE

PARAMETRIC DATA

BETA	=	.000	RN/L	=	3.720
B.FLAF	=	10.000	ELEVON	=	10.000
HAW/HT	=	.000			

REFERENCE DATA

\$REF =	.6238 SQ.FT.	XMRP =	.0000 IN.
LREF =	22.5603 IN.	YMRP =	.0000 IN.
BREF =	16.3919 IN.	ZMRP =	.0000 IN.
SCALE =	.6175 SCALE		

MACH (1) =	8.000	ALPHA (1) =	25.000	TI =	97.367	QI =	3.936	HREF =	.049
--------------	-------	---------------	--------	------	--------	------	-------	--------	------

SECTION (1) ORBITER FUSELAGE	DEPENDENT VARIABLE HU/HQ
1	0.0000
2	0.0000
3	0.0000
4	0.0000
5	0.0000
6	0.0000
7	0.0000
8	0.0000
9	0.0000
10	0.0000
11	0.0000
12	0.0000
13	0.0000
14	0.0000
15	0.0000
16	0.0000
17	0.0000
18	0.0000
19	0.0000
20	0.0000
21	0.0000
22	0.0000
23	0.0000
24	0.0000
25	0.0000
26	0.0000
27	0.0000
28	0.0000
29	0.0000
30	0.0000
31	0.0000
32	0.0000
33	0.0000
34	0.0000
35	0.0000
36	0.0000
37	0.0000
38	0.0000
39	0.0000
40	0.0000
41	0.0000
42	0.0000
43	0.0000
44	0.0000
45	0.0000
46	0.0000
47	0.0000
48	0.0000
49	0.0000
50	0.0000
51	0.0000
52	0.0000
53	0.0000
54	0.0000
55	0.0000
56	0.0000
57	0.0000
58	0.0000
59	0.0000
60	0.0000
61	0.0000
62	0.0000
63	0.0000
64	0.0000
65	0.0000
66	0.0000
67	0.0000
68	0.0000
69	0.0000
70	0.0000
71	0.0000
72	0.0000
73	0.0000
74	0.0000
75	0.0000
76	0.0000
77	0.0000
78	0.0000
79	0.0000
80	0.0000
81	0.0000
82	0.0000
83	0.0000
84	0.0000
85	0.0000
86	0.0000
87	0.0000
88	0.0000
89	0.0000
90	0.0000
91	0.0000
92	0.0000
93	0.0000
94	0.0000
95	0.0000
96	0.0000
97	0.0000
98	0.0000
99	0.0000
100	0.0000

x/L	.0000	.0050	.0100	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

FBI	.0000	.4338	.4226	.2726	.2278	.1940	.1659	.1375	.0000	.1163	.1098	.1008
10	.0000	.4338	.4226	.2726	.2278	.1940	.1659	.1375	.0000	.1163	.1098	.1008
10	.0000	.4338	.4226	.2726	.2278	.1940	.1659	.1375	.0000	.1163	.1098	.1008

[illegible]

FBI					
.000	.1267	.0883	.0821	.5745	.5738
10,000				.0937	
20,000				.0944	
25,500				.1091	
40,000				.0844	
45,500				.0577	
					.0725
					.0699

131.200	.0588
145.400	.0189
146.200	.0594
156.000	.0277
159.200	.0411

.0000	.0702	.0642	.0000	.0360	.0591	.0554	.0622	.0607	.0587	.0594	.0572	.0541	.0509
.0000	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250
.0000	.0056				.0102	.0231	.0333				.1354	.0428	
.0000										.0261			

(CTK827)

AEDC VA352 OH4B 01 CRB, FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE MU/HQ

X/L	.1630	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0642							
21.500								.0743				.0633			
23.000															
24.000				.0904											
31.500				.1038											
34.000								.0835							
35.000				.1026				.0809							
40.000				.1045				.0796							
45.000															
51.000								.0142							
57.500				.0414				.0297				.0040			
59.500								.0260							
61.000								.0168							
65.000															
70.000															
96.500				.0216											
105.000								.0139				.0136			
106.000								.0023				.0009			
135.000				.0140											
141.400															
151.000				.0349											
180.000								.0020				.0092			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000	.0497	.0492	.0490	.0507	.0512	.0523	.0539	.0555	.0551	.0608	.0673	.0705	.0854	.0968	
21.500	.0582				.0472				.0590				.0741		
63.000	.0022														
64.000									.0014						
65.000													.0014		
65.500					.0021										
105.000	.0218				.0491				.0311				.0074		.0093
111.000															
112.000					.0274										
113.000					.0246										
116.000															
135.000	.0030				.0060				.0052				.0593		
149.000															
180.000	.0095				.0068				.0059				.0063		.0066
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500			

PHI:

(CTR827)

AEDC VA352 OH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI												
.000	.1061	.1108	.1110	.1151	.1077	.4017	.2143	.3364		.3832	.3902	.4017
21.500			.1100				.2678					.4017
39.000					.0053							
52.500												
55.000			.0039									
65.000			.0044		.0077							
68.000												
100.000			.0049									
108.000			.0055		.0085							
112.000						.0032						
113.000							.0041					

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI														
.000	.0000	.4185	.4229	.2791	.2461	.2127	.1859	.1560	.0000		.1350	.1271	.1169	.1152
10.000							.2416							.1429
14.000								.2255						.1521
20.000							.1022							.0764
24.500						.0741								
35.000						.0316								
39.000							.0173							
42.500					.0395						.0089			.0138
48.000														.0087
60.000														
119.000			.0761											
180.000														
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1810	.1820
PHI														
.000	.1133		.1059	.0982	.0893		.0922							
10.000					.1238									
20.000					.1115									
25.500					.1252									
40.000					.0910									
45.500					.0581									
131.200									.0053					
145.400														.0098
146.200							.0080							

AEDC VA352 CH4B 01 CRB. FUSELAGE

(CTK827)

$$\text{MACH} (1) = 0.000 \quad \text{ALPHA} (2) = 39.000$$

SECTION (1) ORBITER FUSELAGE	DEPENDENT VARIABLE HU/HG
1	0.0000
2	0.0000
3	0.0000
4	0.0000
5	0.0000
6	0.0000
7	0.0000
8	0.0000
9	0.0000
10	0.0000
11	0.0000
12	0.0000
13	0.0000
14	0.0000
15	0.0000
16	0.0000
17	0.0000
18	0.0000
19	0.0000
20	0.0000
21	0.0000
22	0.0000
23	0.0000
24	0.0000
25	0.0000
26	0.0000
27	0.0000
28	0.0000
29	0.0000
30	0.0000
31	0.0000
32	0.0000
33	0.0000
34	0.0000
35	0.0000
36	0.0000
37	0.0000
38	0.0000
39	0.0000
40	0.0000
41	0.0000
42	0.0000
43	0.0000
44	0.0000
45	0.0000
46	0.0000
47	0.0000
48	0.0000
49	0.0000
50	0.0000
51	0.0000
52	0.0000
53	0.0000
54	0.0000
55	0.0000
56	0.0000
57	0.0000
58	0.0000
59	0.0000
60	0.0000
61	0.0000
62	0.0000
63	0.0000
64	0.0000
65	0.0000
66	0.0000
67	0.0000
68	0.0000
69	0.0000
70	0.0000
71	0.0000
72	0.0000
73	0.0000
74	0.0000
75	0.0000
76	0.0000
77	0.0000
78	0.0000
79	0.0000
80	0.0000
81	0.0000
82	0.0000
83	0.0000
84	0.0000
85	0.0000
86	0.0000
87	0.0000
88	0.0000
89	0.0000
90	0.0000
91	0.0000
92	0.0000
93	0.0000
94	0.0000
95	0.0000
96	0.0000
97	0.0000
98	0.0000
99	0.0000
100	0.0000

[illegible]

DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTR827)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

FH1

105.000 .0227 .0459 .0095 .0042 .0032

111.000

112.000

113.000

116.000

135.000

149.000

180.000

X/L

.8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

FH1

.2327 .2178 .2054 .1998 .1760 .3974 .2693 .4158 .4372 .4383 .4356

21.500

39.000

52.500

55.000

65.000

68.000

100.000

108.000

112.000

113.000

X/L

.0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

FH1

.0000 .4016 .4199 .3021 .2587 .2278 .2035 .1745 .0000 .1492 .1435 .1321 .1543

10.000

14.000

20.000

22.000

24.500

35.000

39.000

42.500

48.000

60.000

115.000

180.000

X/L

.1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

X/L

.0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

(CTK827)

AEDC VA352 CH48 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FH1	.1304	.1196	.1136	.1058	.1073						.1061		.1044		
10.000				.1326											
20.000				.1271											
25.500				.1421											
40.000				.0942											
45.500				.0563					.0057						
131.200															
145.400														.0097	
146.200								.0125							
156.000															
159.200														.0147	
170.700												.0070			.0207
171.900									.0205						
173.400		.0170		.0298	.0704	.0589					.0767		.0647		
180.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FH1	.1113			.0985	.0900	.0862	.0913	.0828	.0926	.0874	.0955	.0912	.0912	.0887	.0877
11.500				.1048											
12.000								.0951							
21.500								.1026					.0884		
23.000															
24.000				.1226											
31.500				.1358											
34.000															
35.000				.1312				.1158							
40.000				.1233				.1063							
45.000								.1036							
51.000				.0402											
57.500								.0093							
59.500												.0018			
61.000								.0210							
65.000								.0220							
70.000								.0214							
96.500				.0207											
103.000															
106.000															
135.000								.0150				.0177			
140.000				.0060				.0010					.0007		
141.400	.0086														
151.000															
180.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500

DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

AEDC VA352 OH4B O1 ORD. FUSELAGE (CTR827)

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE		DEPENDENT VARIABLE HU/HO														
X/L		.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI																
.000	.0940	.1019	.1121	.1312	.1552	.1871	.2057	.2275	.2450	.2621	.2734	.2663	.2934	.2801	.2963	
21.500	.0947				.1407				.2517							
63.000	.0904															
64.000									.0012							
65.000						.0008								.0008		
65.500						.0212										
105.000	.0266								.0062					.0017		.0011
111.000																
112.000					.0351							.0058				
113.000					.0332											
116.000									.0061			.0058				
135.000	.0015				.0031											
149.000					.0030				.0043						.0054	
180.000	.0023															
X/L		.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI																
.000	.2779	.2508	.2370	.2273	.2028	.3774	.2875	.4436		.4478	.4398	.4314				
21.500			.2350													
39.000							.2820						.3774			
52.500						.0043										
55.000			.0024													
65.000			.0024													
68.000						.0024										
100.000			.0023													
106.000			.0017													
112.000						.0027	.0029									
113.000								.0039								

(CTKL27) (15 JAN 75)

CRB, BOTTOM SURFACE WING

AEOC VA352 CH4B 01

REFERENCE DATA

SREF =	.0238 SQ.FT.	XMRP =	.0050 IN.
LBREF =	22.5803 IN.	YMRP =	.0000 IN.
BBREF =	16.3919 IN.	ZMRP =	.0000 IN.
SCALE =	.0175 SCALE		

$$\text{MACH} (1) = 8.000 \quad \text{ALPHA} (1) = 25.000$$

SECTION (1) BOTTOM SURF. WING

24/8	.2500	.3019	.3489	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
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DEPENDENT VARIABLE HU/HQ

318

.001	.0412	.0246	.3580	.1878	.2633	.0525	.1086	.0643	.0428
.002			.2311			.2019			
.003			.3634			.1951			
.004			.3073			.1786			
.005			.2772			.1624			
.006			.2523			.1347			
.007			.2068			.1187			
.008	.0489	.1816	.4065		.3769		.1424		
.009		.1599		.1509	.3236	.2137	.1441		
.010									
.013	.0959		.1150						
.017		.1032		.0907					
.020									
.029	.0671								
.030			.1457	.1390	.2363	.1246	.1194		
.032		.0852							
.033					.3830				
.038				.3081					
.044	.0570		.4080		.4055	.3331	.1176		
.047									
.050		.0973							
.059									
.059	.0474								
.600			.1870	.1024			.1346		
.700		.1337	.2395	.2423	.1698		.1850		
.736	.1004								
.800				.3175	.3406				
.850				.4190	.3859				
.900	.1370	.3275	.3360	.3719	.3168			.2305	

PARAMETRIC DATA

BETA	=	.000	RN/L	=	3.720
B.FLAP	=	10.000	ELEVON	=	10.000
HAW/HT	=	.000			

.049

3.936 HREF

TI = 97.367 31

11/11/11 - 25/11/11

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TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

AEDC VA352 OH4B O1 ORB. BOTTOM SURFACE WING (CTRL27)

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C .001 .0413 .0245 .2867 .1696 .2844 .0540 .1014 .0744 .0631

.002 .2702 .1927

.003 .3545 .1991

.004 .3957 .2125

.005 .3271 .2597

.006 .3457 .2223

.007 .2798 .2226

.025 .1635 .3814 .4620 .1452

.030 .1660 .1935 .4394 .3259 .1574

.100 .1046 .1200

.177 .1227 .1575

.200 .1335 .1379 .4349 .3624 .2830

.299 .0756 .1136 .1427

.300 .1546

.428 .0737 .3107 .2738 .4656 .2299

.444 .1878

.500 .1071 .2534 .1324 .1922 .2433

.600 .2012 .2716 .2169 .1917

.700 .2570 .3125 .3937

.800 .4195 .4615

.850 .3826 .3981

.900 .1732 .3551 .3633 .3026

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C .001 .0429 .0248 .2648 .2024 .1906 .0464 .1269 .0846 .0817

.002 .3169 .2029

.003 .4755 .2334

.004 .4959 .2461

.005 .4495 .2713

.006 .4204 .2527

.007 .3585 .2610

.025 .1656 .3639 .2868

(CTKL27)

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE HU/HO

21/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050				.1899		.2547	.2398	.4521		.1901		
.100										.2083		
.150	.1100											
.177					.1482							
.200				.1611		.1972						
.299	.0869											
.300					.1797	.1486		.2898	.4898	.3426		
.302				.1860			.1668					
.303						.2153						
.426												
.444	.1138											
.487					.3351							
.500				.2956		.1744	.1868			.3078		
.559												
.590	.2270											
.600				.2604	.1917				.1428			
.700				.2661	.2556	.2257	.0951			.2926		
.736	.3554											
.800					.3197	.2360						
.850					.4226	.4018						
.900	.2005			.3665	.3495	.3794	.4139			.3492		



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTKU27) (15 JAN 75)

AEDC VA352 CH48 01 ORB. UPPER SURFACE WING

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .500

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0039 .0570 .1816
 .200 .0489 .0474 .1599
 .600 .0959 .1004 .1032
 .800 .1370 .0852
 .900 .0412 .0973
 .950 .0671 .0246 .1337

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0025 .0737 .1635
 .200 .0510 .1071 .1660
 .600 .1046 .2570 .1227
 .800 .1732 .1136
 .900 .0413 .1878
 .950 .0756 .0245 .2012

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

2Y/B .4000 .6000 .8000

X/C

.050 .0024 .1138 .1656
 .200 .0520 .2270 .1899
 .600 .1100 .3534 .1611
 .800 .2005 .1860
 .900 .0429 .2956
 .950 .0869 .0248 .2661

AEDC VA352 CH48 01 ORB. LEFT VERTICAL TAIL (CTKV27) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE MU/HQ

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0928 .0482 .0502 .0927
 .010 .0100 .0157 .0193 .0362
 .100 .0206 .0057 .0095 .0149 .0242
 .300 .0098 .0139 .0180 .0252
 .500 .0037 .0045 .0056 .0068
 .700 .0046 .0071 .0093

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE MU/HQ

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0138 .0244 .0430 .0481
 .010 .0100 .0092 .0269 .0304
 .100 .0093 .0061 .0219 .0296
 .300 .0064 .0152 .0268 .0190
 .500 .0035 .0028 .0052 .0118
 .700 .0037 .0070 .0103

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE MU/HQ

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0155 .0291 .0538 .0452
 .010 .0100 .0099 .0218 .0357
 .100 .0074 .0087 .0202 .0292
 .300 .0073 .0208 .0235 .0190
 .500 .0022 .0031 .0087 .0104
 .700 .0045 .0100 .0103

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .000



AEDC VA352 CH4B 01

CRB. RCS CENTER

(CTKR27) (15 JAN 75)

REFERENCE DATA									
SREF =	.8238	SQ.FT.	XMRP =	.0000	IN.	BETA =	.000	RN/L =	3.720
LREF =	22.5803	IN.	YMRP =	.0000	IN.	B.FLAP =	10.000	ELEVON =	10.000
BREF =	16.3919	IN.	ZMRP =	.0000	IN.	HAW/HT =	.000		
SCALE =	.0175	SCALE							
MACH (1) =	8.000	ALPHA (1) =	25.000	T1 =	97.367	Q1 =	3.936	HREF =	.049
SECTION (1) RCS CENTER									
DEPENDENT VARIABLE HU/HO									
X/L	.0760	.3000	.8000	.9000	.9750				
Z	6.125	.0548	.0260	.0014	.0044	.0077			
MACH (1) =	8.000	ALPHA (2) =	30.000	T1 =	97.367	Q1 =	3.936	HREF =	.049
SECTION (1) RCS CENTER									
DEPENDENT VARIABLE HU/HO									
X/L	.0760	.3000	.8000	.9000	.9750				
Z	6.125	.0513	.0240	.0008	.0027	.0035			
MACH (1) =	8.000	ALPHA (3) =	35.000	T1 =	97.367	Q1 =	3.936	HREF =	.049
SECTION (1) RCS CENTER									
DEPENDENT VARIABLE HU/HO									
X/L	.0760	.3000	.8000	.9000	.9750				
Z	6.125	.0475	.0220	.0008	.0024	.0024			

PARAMETRIC DATA

(CTKM27) (15 JAN 75)

AEDC VA352 CH48 O1 CRB. OMS FOD

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5893 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) OMS FOD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z	8.295	.0304	.1148	.0686	.0308	.0264	.0371
	8.540	.0810					.0303
	8.650	.0581					
	8.727		.0650				
	8.750				.0000	.0137	
	8.855			.0294			
	8.942		.0194				
	8.978				.0109		
	9.056			.0050			
	9.118			.0060			
	9.222			.0073			
	9.275			.0037			

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) OMS FOD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z	8.295	.0377	.0874	.0615	.0722	.0102	.0109
	8.540	.0993					.0193
	8.650	.0451					
	8.727		.0665				
	8.750				.0000	.0108	
	8.855		.0211				
	8.942		.0168				
	8.978				.0199		
	9.056		.0127				
	9.118		.0051				
	9.222			.0072			
	9.275			.0045			



PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .000

AEDC VA352 CH4B 01 CRB. CMS FOD (CTKM27)

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) CMS FOD DEPENDENT VARIABLE MU/HG

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295	.0065	.0083	.0091	.0289	.0058	.0125	.0196
8.540		.0066					
8.650		.0093					
8.727			.0126				
8.750					.0000	.0071	
8.855				.0208			
8.942			.0087				
8.978					.0109		
9.056				.0089			
9.118				.0041			
9.222					.0028		
9.275					.0030		

(CTKY27) (15 JAN 75)

AEDC VA332 CH4B O1 ORB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 T1 = 97.367 Q1 = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0904 .0743 .0633 .0582 .0472 .0590 .0741 .1100

MACH (1) = 8.000 ALPHA (2) = 30.000 T1 = 97.367 Q1 = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1074 .0878 .0756 .0711 .0709 .1344 .2123 .2043

MACH (1) = 8.000 ALPHA (3) = 35.000 T1 = 97.367 Q1 = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1226 .1026 .0884 .0947 .1407 .2517 .2801 .2350

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.F.LAP = 10.000 ELEVON = 10.000
 HAM/HT = .000



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

PAGE 369

AEDC VA352 CH4B 01 ORB. WING UPPER CREASE (CTKC27) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0040 .0022 .0021 .0014 .0039

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0027 .0007 .0011 .0013 .0025

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0018 .0004 .0008 .0012 .0024

(CTKF27) (15 JAN 75)

AEDC VA352 OH48 01 CRB. FUSELAGE Z=7.525

REFERENCE DATA

XREF = .8238 50 FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0139 .0136 .0218 .0491 .0311 .0574

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0147 .0118 .0227 .0459 .0095 .0642

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0150 .0177 .0266 .0212 .0062 .0517

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000



AEDC VA352 CH4B 01 ORB. FUSELAGE

(CTKB28) (15 JAN 75)

REFERENCE DATA

SREF =	.828 SQ.FT.	XHRF =	.0050 IN.
YREF =	22.503 IN.	YHRF =	.0050 IN.
ZREF =	16.391 IN.	ZHRF =	.0050 IN.
SCALE =	.0175 SCALE		

PARAMETRIC DATA

BETA	=	-5.000	RN/L	=	3.720
B.FLAP	=	10.000	ELEVON	=	10.000
HAW/HT	=	.000			

MACH (1) =	8.000	ALPHA (1) =	25.000	TI =	97.300	QI =	3.930	HREF =	.049
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SECTION (1) ORBITER FUSELAGE	DEPENDENT VARIABLE HU/HG
1	1.0000
2	1.0000
3	1.0000
4	1.0000
5	1.0000
6	1.0000
7	1.0000
8	1.0000
9	1.0000
10	1.0000
11	1.0000
12	1.0000
13	1.0000
14	1.0000
15	1.0000
16	1.0000
17	1.0000
18	1.0000
19	1.0000
20	1.0000
21	1.0000
22	1.0000
23	1.0000
24	1.0000
25	1.0000
26	1.0000
27	1.0000
28	1.0000
29	1.0000
30	1.0000
31	1.0000
32	1.0000
33	1.0000
34	1.0000
35	1.0000
36	1.0000
37	1.0000
38	1.0000
39	1.0000
40	1.0000
41	1.0000
42	1.0000
43	1.0000
44	1.0000
45	1.0000
46	1.0000
47	1.0000
48	1.0000
49	1.0000
50	1.0000
51	1.0000
52	1.0000
53	1.0000
54	1.0000
55	1.0000
56	1.0000
57	1.0000
58	1.0000
59	1.0000
60	1.0000
61	1.0000
62	1.0000
63	1.0000
64	1.0000
65	1.0000
66	1.0000
67	1.0000
68	1.0000
69	1.0000
70	1.0000
71	1.0000
72	1.0000
73	1.0000
74	1.0000
75	1.0000
76	1.0000
77	1.0000
78	1.0000
79	1.0000
80	1.0000
81	1.0000
82	1.0000
83	1.0000
84	1.0000
85	1.0000
86	1.0000
87	1.0000
88	1.0000
89	1.0000
90	1.0000
91	1.0000
92	1.0000
93	1.0000
94	1.0000
95	1.0000
96	1.0000
97	1.0000
98	1.0000
99	1.0000
100	1.0000

x/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
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[illegible][illegible][illegible]

Year	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020
Population (millions)	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4
GDP (billions of dollars)	100	150	200	250	300	350	400	450	500	550
Life expectancy (years)	45	50	55	60	65	70	75	80	85	90
Urban population (%)	15	20	25	30	35	40	45	50	55	60
Industrial production (index)	100	120	140	160	180	200	220	240	260	280
Energy consumption (quadrillion Btu)	10	15	20	25	30	35	40	45	50	55
Research and development (billions of dollars)	1	2	3	4	5	6	7	8	9	10
Healthcare spending (billions of dollars)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
Education spending (billions of dollars)	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0
Government spending (billions of dollars)	10	15	20	25	30	35	40	45	50	55
Unemployment rate (%)	10	12	14	16	18	20	22	24	26	28
Inflation rate (%)	2	3	4	5	6	7	8	9	10	11
Interest rate (%)	5	6	7	8	9	10	11	12	13	14
Trade balance (billions of dollars)	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50
Foreign aid (billions of dollars)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Immigration (millions)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Emigration (millions)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Net migration (millions)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Population growth rate (%)	1.5	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.6
Birth rate (per 1,000)	25	24	23	22	21	20	19	18	17	16
Death rate (per 1,000)	10	9	8	7	6	5	4	3	2	1
Infant mortality rate (per 1,000 live births)	100	90	80	70	60	50	40	30	20	10
Maternal mortality rate (per 100,000 live births)	100	90	80	70	60	50	40	30	20	10
Fertility rate (per woman)	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5
Sex ratio (males per 100 females)	100	100	100	100	100	100	100	100	100	100
Gender inequality index	0.5	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Human Development Index	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4
Life expectancy at birth (years)	45	50	55	60	65	70	75	80	85	90
Life expectancy at age 65 (years)	20	25	30	35	40	45	50	55	60	65
Life expectancy at age 80 (years)	10	15	20	25	30	35	40	45	50	55
Life expectancy at age 90 (years)	5	10	15	20	25	30	35	40	45	50
Life expectancy at age 100 (years)	0	5	10	15	20	25	30	35	40	45
Life expectancy at age 110 (years)	0	0	5	10	15	20	25	30	35	40
Life expectancy at age 120 (years)	0	0	0	5	10	15	20	25	30	35
Life expectancy at age 130 (years)	0	0	0	0	5	10	15	20	25	30
Life expectancy at age 140 (years)	0	0	0	0	0	5	10	15	20	25
Life expectancy at age 150 (years)	0	0	0	0	0	0	5	10	15	20
Life expectancy at age 160 (years)	0	0	0	0	0	0	0	5	10	15
Life expectancy at age 170 (years)	0	0	0	0	0	0	0	0	5	

[illegible]

(CTR828)

AEDC VA352 CH4B O1 ORB. FUSELAGE

MACH (1) = 0.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0761							
21.500								.0000							
23.000								.0000							
24.000				.0000											
31.500				.1179											
34.000								.1031							
35.000				.1243											
40.000				.1351				.1063							
45.000								.1100							
51.000				.0631											
57.500								.0531							
59.500								.0550				.0172			
61.000								.0379							
65.000								.0257							
70.000							.0312								
96.500												.0196			
105.000								.0204							
135.000								.0034				.0015			
140.000							.0000								
141.400	.0000														
151.000				.0000											
180.000								.0017				.0058			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000															
21.500															
63.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
64.000	.0057														
65.000									.0061						
65.500													.0032		
105.000	.0260								.0362						
111.000															.0641
112.000															
113.000															
116.000															
135.000	.0021								.0028						
149.000															
180.000	.0058								.0014						.0046
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

PHI:



(CTK828)

AEDC VA352 CH48 O1 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1550	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
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PHI

156.000

159.200

170.700

171.900

173.400

180.000

X/L

.1830

.1900

.1910

.2000

.2250

.2500

.2750

.3000

.3250

.3500

.3750

.4000

.4250

.4500

.4750

PHI

.000

11.500

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

X/L

.5000

.5250

.5500

.5750

.6000

.6250

.6500

.6750

.7000

.7250

.7500

.7750

.8000

.8250

.8290

PHI

.000

21.500

63.000

64.000

65.000

65.500

(CTK828)

AEDC VA352 OH4B 01 CRB, FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

FHI

.0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
10.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
20.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
25.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
40.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
45.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
131.200 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
145.400 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
146.200 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
156.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
159.200 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
170.700 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
171.900 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
173.400 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
180.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

X/L

.1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FHI

.0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
11.500 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
12.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
21.500 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
23.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
24.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
31.500 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
34.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
35.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
40.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
45.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
51.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
57.500 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
59.500 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
61.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
65.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
70.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
96.500 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
105.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
106.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
135.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
140.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
141.400 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
151.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
180.000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

X/L

.5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8290

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTK828)

AEDC VA352 OH4B O1 GRB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/H0

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
63.000	.0017														
64.000								.0022					.0020		
65.000															
65.500	.0306				.0030			.0594					.0154		.0273
103.000					.0631										
111.000															
112.000					.0417										
113.000					.0385						.0683				
116.000															
135.000	.0022				.0040			.0054			.0063				
149.000															
180.000	.0032				.0034			.0047					.0043		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
FHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000															
52.500															
55.000	.0096					.0068	.3438						.4347		
65.000	.0093														
68.000															
100.000	.0092					.0101									
108.000	.0107					.0090	.0063								
112.000															
113.000								.0077							

(CTKL28) (15 JAN 75)

AEDC VA352 OH4B 01 ORB. BOTTOM SURFACE WING

REFERENCE DATA

SREF = .0238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BRP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HQ

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0567	.0343	.3543	.1747	.2983	.0850	.1501	.0872	.0284
.002			.2695	.2396					
.003			.3791	.2227					
.004			.3759	.1947					
.005			.3285	.1691					
.006			.3045	.1350					
.007			.2525	.1199					
.025	.0740	.2557	.4421	.4120					
.050		.1673	.1852	.1949	.2198		.1927	.1949	
.100	.1196								
.153			.1221						
.177		.1162		.1325					
.200	.0781								
.299		.0986	.1175	.1015	.1077	.1132	.1158		
.300									
.302									
.303									
.428			.2426						
.444	.0650		.1568						
.487									
.500		.3490							
.559		.2016	.3556	.1185			.0931		
.590	.0529								
.600			.2270	.0973					
.700		.2681	.2487	.2343	.1799	.0569		.0409	
.736	.0858								
.800			.3747	.3825					
.850			.4555	.4042					
.900	.1236	.3752	.3603	.3909	.3378			.1074	



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

AEDC VA352 OH4B O1 CRB. BOTTOM SURFACE WING (CTKL28)

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C	.001	.0578	.0314	.3445	.1861	.2864	.0487	.1268	.0751	.0352		
	.002			.2744	.2228							
	.003			.4228	.2159							
	.004			.3930	.1965							
	.005			.3585	.1722							
	.006			.3059	.1405							
	.007			.2575	.1302							
	.025	.0712	.2253	.4504		.4016				.1699		
	.050		.1896		.2044	.3109	.2325			.1743		
	.100											
	.153	.1315										
	.177			.1415								
	.200		.1258		.1380							
	.299	.0852										
	.300		.1320	.1054		.1958	.1384	.1478				
	.302		.1030									
	.303				.4428							
	.428											
	.444	.0782			.1186							
	.487		.1386			.3754	.3288		.1191			
	.500		.1566									
	.559											
	.590	.0731		.1893	.1059				.1433	.1544		
	.600		.2359	.2655	.0911	.1522						
	.700											
	.736	.1419										
	.800			.2904	.3950							
	.850			.4724	.4855							
	.900	.1676	.4113	.3869	.4456	.4109			.2555			

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C	.001	.0531	.0323	.2788	.1685	.2136	.0522		.1075	.0804	.0658	
	.002			.2471	.1859							
	.003			.3916	.1955							
	.004			.3856	.2066							
	.005			.3620	.2084							
	.006			.3382	.2229							
	.007			.2858	.2216							
	.025	.0710	.1968	.3833		.3328						

(CTKL28)

MACH (1) = 0.000 ALPHA (3) = 35.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050												
.100				.1919		.2112	.2892	.3242		.1573		
.153	.1350									.1727		
.177					.1348							
.200						.1446						
.299	.0910											
.300					.1339	.1172		.4491	.3638	.2710		
.302				.1201								
.303							.1366					
.428						.1327						
.444	.0849											
.487					.1560							
.500							.1212	.4641		.2248		
.559				.1465								
.590	.1081											
.600					.1486	.1184			.1831			
.700				.1595	.1741	.0943	.0667			.2341		
.736	.2186											
.800						.2789	.1885					
.850						.4733	.4178					
.900	.2138			.3631	.4138	.4590	.4170			.3065		



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKV28) (15 JAN 75)

AEDC VA352 CH4B 01 ORB. LEFT VERTICAL TAIL

REFERENCE DATA

SREF = .0238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 19.000 ELEVON = 10.000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0095 .0412 .0455 .0304
 .010 .0061 .0075 .0477 .0398
 .300 .0070 .0110 .0435 .0245
 .500 .0153 .0492 .0349 .0132
 .700 .0046 .0092 .0155 .0172
 .900 .0103 .0170 .0159

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0139 .0395 .0975 .0649
 .010 .0166 .0207 .0503 .0523
 .300 .0083 .0228 .0508 .0370
 .500 .0213 .0446 .0349 .0209
 .700 .0026 .0053 .0120 .0157
 .900 .0045 .0141 .0138

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V .1590 .2990 .5320 .7650 .9050

X/C

.000 .0133 .0260 .0177 .0132
 .010 .0153 .0303 .0507 .0334
 .300 .0068 .0222 .0432 .0382
 .500 .0207 .0351 .0312 .0227
 .700 .0023 .0062 .0102 .0125
 .900 .0052 .0118 .0111

AEDC VA352 CH4B 01 ORB. RCS CENTER

(CTKR28) (15 JAN 75)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0712 .0379 .0032 .0054 .0182

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0667 .0431 .0020 .0123 .0117

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HQ

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0628 .0416 .0020 .0093 .0101

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .000



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKR28) (15 JAN 75)
AEDC VA352 CH4B Q1 ORB. CMS FOD

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
B.FLAP = 10.000 ELEVON = 10.000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.3803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) CMS FOD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0678	.1690	.1013	.0622	.0209	.0222	.0191
8.540		.1365					
8.650		.0764					
8.727			.0904				
8.750					.0000	.0132	
8.855				.0422			
8.942			.0278				
8.978					.0141		
9.056			.0042				
9.118			.0076				
9.222					.0059		
9.275					.0035		

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) CMS FOD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0459	.1395	.0874	.0462	.0208	.0210	.0179
8.540		.1016					
8.650		.0580					
8.727			.0779				
8.750					.0000	.0120	
8.855			.0347				
8.942			.0232				
8.978					.0101		
9.056			.0071				
9.118			.0071				
9.222					.0057		
9.275					.0053		

AEDC VA352 CH4B O1 ORB. CMS FOD (CTRM28)

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) CMS FOD DEPENDENT VARIABLE MU/HG

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z

8.295	.0583	.1193	.0758	.0426	.0361	.0413	.0338
8.540	.0875						
8.650	.0521						
8.727		.0618					
8.750					.0000	.0134	
8.855				.0236			
8.942		.0207					
8.978					.0105		
9.056				.0056			
9.118				.0062			
9.222					.0035		
9.275					.0031		



TABULATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

(CTKC28) (15 JAN 75)

AEDC VA352 CH48 01 ORB. WING UPPER CREASE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000

FH1
 62.000 .0172 .0057 .0077 .0061 .0042

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000

FH1
 62.000 .0074 .0029 .0050 .0032 .0080

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .4000 .5000 .6000 .7000 .9000

FH1
 62.000 .0040 .0017 .0030 .0022 .0096

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .000

AEDC VA352 CH4B 01 CRB, FUSELAGE Z=7.525 (CTKF28) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 2.000 ALPHA (1) = 25.000 T1 = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0204 .0196 .0260 .0367 .0362 .0324

MACH (1) = 8.000 ALPHA (2) = 30.000 T1 = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0202 .0172 .0274 .0440 .0771 .0278

MACH (1) = 8.000 ALPHA (3) = 35.000 T1 = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0197 .0199 .0306 .0631 .0594 .0154

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAU/HT = .000



DATE 23 JAN 75
TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKB29) (15 JAN 75)

AEDC VA352 CH4B 02 CRB. FUSELAGE

PARAMETRIC DATA

REFERENCE DATA

```

SREF = .8238 SQ.FT.      XMRP = .0000 IN.      BETA = .000      RN/L = .000      = 3.720
LREF = 22.5853 IN.      YMRP = .0000 IN.      8.FLAF = .000      ELEVON = .000
BREF = 16.3919 IN.      ZMRP = .0000 IN.      HAW/HT = .000
SCALE = .9175 SCALE

```

ALPHA / 41 =	25 DEG	TI =	97.067	QI =	3.940	HREF =	.049
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SECTION (1) ORBITER FUSELAGE

DEFENDENT VARIABLE HU/HQ

[illegible]

PFI	.3277	.4257	.4109	.2765	.2233	.1936	.1625	.1362	.1242	.1119	.1063	.0976 .0000
.000												
10.000							.0000					.0000
14.000												.0000
20.000							.0000					.0000
22.000												.0000
24.000							.0000					.0000
35.000												.0000
39.000							.0000					.0000
42.500										.0000		
48.000							.0000					.0000
60.000												.0000
119.000							.0000					.0000
180.000			.0000		.0000		.0000					.0000

[illegible]

FBI	.0887	.0827	.0755	.0705	.0716	.0700	.0702
10,000				.0000			
20,000				.0000			
25,500				.0000			
40,000				.0000			
45,500				.0000			
131,200					.0000		
145,400						.0000	
146,200					.0000		
156,000						.0000	
59,200							.0000

	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884	1883	1882	1881	1880	1879	1878	1877	1876	1875	1874	1873	1872	1871	1870	1869	1868	1867	1866	1865	1864	1863	1862	1861	1860	1859	1858	1857	1856	1855	1854	1853	1852	1851	1850	1849	1848	1847	1846	1845	1844	1843	1842	1841	1840	1839	1838	1837	1836	1835	1834	1833	1832	1831	1830	1829	1828	1827	1826	1825	1824	1823	1822	1821	1820	1819	1818	1817	1816	1815	1814	1813	1812	1811	1810	1809	1808	1807	1806	1805	1804	1803	1802	1801	1800	1799	1798	1797	1796	1795	1794	1793	1792	1791	1790	1789	1788	1787	1786	1785	1784	1783	1782	1781	1780	1779	1778	1777	1776	1775	1774	1773	1772	1771	1770	1769	1768	1767	1766	1765	1764	1763	1762	1761	1760	1759	1758	1757	1756	1755	1754	1753	1752	1751	1750	1749	1748	1747	1746	1745	1744	1743	1742	1741	1740	1739	1738	1737	1736	1735	1734	1733	1732	1731	1730	1729	1728	1727	1726	1725	1724	1723	1722	1721	1720	1719	1718	1717	1716	1715	1714	1713	1712	1711	1710	1709	1708	1707	1706	1705	1704	1703	1702	1701	1700	1699	1698	1697	1696	1695	1694	1693	1692	1691	1690	1689	1688	1687	1686	1685	1684	1683	1682	1681	1680	1679	1678	1677	1676	1675	1674	1673	1672	1671	1670	1669	1668	1667	1666	1665	1664	1663	1662	1661	1660	1659	1658	1657	1656	1655	1654	1653	1652	1651	1650	1649	1648	1647	1646	1645	1644	1643	1642	1641	1640	1639	1638	1637	1636	1635	1634	1633	1632	1631	1630	1629	1628	1627	1626	1625	1624	1623	1622	1621	1620	1619	1618	1617	1616	1615	1614	1613	1612	1611	1610	1609	1608	1607	1606	1605	1604	1603	1602	1601	1600	1599	1598	1597	1596	1595	1594	1593	1592	1591	1590	1589	1588	1587	1586	1585	1584	1583	1582	1581	1580	1579	1578	1577	1576	1575	1574	1573	1572	1571	1570	1569	1568	1567	1566	1565	1564	1563	1562	1561	1560	1559	1558	1557	1556	1555	1554	1553	1552	1551	1550	1549	1548	1547	1546	1545	1544	1543	1542	1541	1540	1539	1538	1537	1536	1535	1534	1533	1532	1531	1530	1529	1528	1
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[illegible]

(CTRB29)

AEDC VA352 OR4B O2 CRB. FUSELAGE

MACH (1) = 0.900 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE		DEPENDENT VARIABLE HU/HO														
X/L		.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI																
12.000									.0000							
21.500									.0619							
23.000																
24.000				.0879												
31.500				.1016												
34.000									.0000							
35.000				.0985												
40.000				.1000					.0780							
43.000									.0790							
51.000				.0900												
57.500									.0000							
59.500																
61.000									.0000							
65.000									.0000							
70.000									.0000							
96.500				.0000												
105.000									.0000							
106.000									.0000							
135.000									.0000							
140.000				.0000												
141.400																
151.000				.0000												
180.000									.0000							
X/L																
.5000		.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500	.8750
PHI																
.0497		.0491	.0489	.0509	.0507	.0512	.0533	.0519	.0525	.0570	.0637	.0649	.0820	.0939		
.0564					.0481				.0571				.0742			
.0000									.0000							
64.000									.0000							
65.000									.0000							
65.500					.0000								.0000			
105.000					.0000				.0000				.0000			
111.000																
112.000					.0000											
113.000					.0000											
116.000																
135.000				.0000					.0000				.0000			
149.000									.0000				.0000			
180.000				.0000					.0000				.0000			
.8500		.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500				
X/L																
PHI																



DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

PAGE 389

AEDC VA352 OH4B O2 ORB. FUSELAGE (CTR829)

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.1036	.1102	.1135	.1172	.1063	.1119	.1149	.0000	.0000	.0000	.1114
21.500		.1144									
39.000						.0000	.0000				.0000
52.500			.0000			.0000					
55.000			.0000								
65.000			.0000			.0000					
68.000											
100.000			.0000								
108.000			.0000			.0000					
112.000											
113.000						.0000					

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

PHI

.000	.2987	.4136	.4140	.2927	.2423	.2130	.1858	.1563	.1415	.1308	.1251	.1154
10.000							.0000					.0000
14.000												
20.000							.0000					.0000
22.000							.0000					.0000
24.500							.0000					.0000
35.000							.0000					.0000
39.000							.0000					.0000
42.500							.0000		.0000			
48.000							.0000					.0000
60.000							.0000					.0000
119.000							.0000					.0000
180.000			.0000		.0000	.1600	.1620	.1670	.1690	.1700	.1780	.1810

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

PHI

.000	.1106	.1037	.0971	.0886	.0883	.0877	.0861
10.000			.0000	.0000			
20.000			.0000	.0000			
25.500			.0000	.0000			
40.000			.0000	.0000			
45.500			.0000	.0000			
131.200				.0000			
145.400							
146.200				.0000			.0000

(CTKB29)

AEDC VA352 CH48 O2 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L	.1200	.1250	.1300	.1350	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FH1																
156.000																
159.200															.0000	.0000
170.700																
171.900																
173.400																
180.000																
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750	
FH1																
.000		.0850		.0784	.0000	.0694	.0741	.0680	.0780	.0828	.0748	.0749	.0715	.0686	.0644	
11.500				.0900												
12.000																
21.500																
23.000																
24.000				.1039												
31.500				.1180												
34.000																
35.000				.1143												
40.000				.1113												
45.000																
51.000				.0900												
57.500																
59.500																
61.000																
65.000																
70.000																
96.500				.0900												
103.000																
106.000																
135.000																
140.000				.0900												
141.400																
151.000				.0900												
180.000																
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500	
FH1																
.000		.0661	.0709	.0805	.0831	.0912	.1054	.1153	.1264	.1455	.1641	.1772	.2110	.2274		
21.500					.0701				.1291							
63.000																
64.000																
65.000																
65.500					.0000											



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTK829)

AEDC VA352 CH4B O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HJ/H0

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000															
112.000					.0000										
113.000					.0000										
116.000									.0000		.0000				
135.000	.0000				.0000				.0000		.0000				
149.000													.0000		
180.000	.0000				.0000				.0000				.0000		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
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PHI												
.0000	.2268	.2174	.2067	.1966	.1682	.1717	.1679	.0000	.0000	.0000	.1560	
21.500	.2070							.0000			.0000	
39.000						.0000						.0000
52.500			.0000									
55.000			.0000									
65.000			.0000									
68.000						.0000						
100.000			.0000									
108.000			.0000			.0000						
112.000							.0000					
113.000								.0000				

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HJ/H0

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI														
.0000	.2692	.3979	.3996	.2978	.2578	.2297	.2014	.1726	.1567		.1467	.1414	.1293	.1293
10.000													.0000	.0000
14.000								.0000					.0000	.0000
20.000								.0000					.0000	.0000
22.000								.0000					.0000	.0000
24.500								.0000					.0000	.0000
35.000								.0000					.0000	.0000
39.000								.0000					.0000	.0000
42.500								.0000					.0000	.0000
48.000								.0000					.0000	.0000
60.000								.0000					.0000	.0000
119.000								.0000					.0000	.0000
180.000			.0000		.0000	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1810	.1820
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1810	.1820

(CTK829)

AEDC VA352 CH4B O2 ORB, FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE MU/HG

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1700 .1780 .1800 .1810 .1820

PHI

.000 .1278 .1191 .1123 .1042 .1049 .1048 .1034
 10.000
 20.000
 25.500
 40.000
 45.500
 131.200
 145.400
 146.200
 156.000
 159.200
 170.700
 171.900
 173.400
 180.000

.0000

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.0000

.4750

X/L

PHI

.000 .1051 .0957 .0000 .0848 .0887 .0908 .0900 .0961 .0879 .0872 .0870 .0848 .0846
 11.500
 12.000
 21.500
 23.000
 24.000
 31.500
 34.000
 35.000
 40.000
 45.000
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 57.500
 59.500
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 70.000
 96.500
 105.000
 106.000
 135.000
 140.000
 141.400
 151.000
 180.000

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.0880

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.7750

.7500

.7250

.7000

.6750

.6500

.6250

.6000

.5750

.5500

.5250

.5000



AEDC VA352 CH4B 02 ORB. LEFT MAIN NOZZLE (CTKN29) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAF = .000 ELEVON = .000
HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0194	.0310	.0193	.0074	
25.000	.0229	.0473			
45.000	.0143	.0145	.0144	.0175	.0170
65.000	.0551	.0470		.0462	
90.000	.0352	.0332	.0358	.0384	
135.000	.0209				
315.000	.0140				

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0467	.0717	.0472	.0130	
25.000	.0590	.0871			
45.000	.0172	.0160	.0139	.0145	.0288
65.000	.0351	.0349		.0552	
90.000	.0375	.0358	.0355	.0305	
135.000	.0054				
315.000	.0373				

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0744	.0961	.0876	.0260	
25.000	.0768	.0921			
45.000	.0315	.0279	.0217	.0166	.0411
65.000	.0454	.0470		.0633	
90.000	.0485	.0502	.0562	.0654	
135.000	.0032				
315.000	.0548				



(CTKF29) (15 JAN 75)

AEDC VA352 CH48 O2 CRB, BASE PLATE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z 5.600 .0024 .0024
7.520 .0009 .0020

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z 5.600 .0017 .0021
7.520 .0017 .0005

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z 5.600 .0033 .0054
7.520 .0015 .0011

(CTKY29) (15 JAN 75)

AEDC VA352 CH4B C2 ORB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HG

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0879 .0749 .0619 .0564 .0461 .0371 .0342 .1144

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HG

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1039 .0910 .0775 .0693 .0701 .1291 .2026 .2070

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HG

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1193 .0999 .0880 .0922 .1294 .2403 .2765 .2333

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000



(CTK830)

AEDC VA352 CH4B 02 ORD. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FH1								.0000				.0595			
12.000								.0735							
21.500															
23.000				.0892											
24.000				.1045											
31.500								.0000							
34.000				.1023				.0826							
35.000				.0984				.0823							
40.000								.0000							
45.000				.0000				.0000							
51.000								.0000							
57.500								.0000							
59.500								.0000							
61.000								.0000							
65.000								.0000							
70.000				.0000				.0000							
96.500								.0000							
105.000								.0000							
106.000								.0000							
135.000								.0000							
140.000				.0000				.0000							
141.400								.0000							
151.000			.0000					.0000							
180.000				.0000		.0000		.0000							
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FH1															
.0000	.0460	.0489	.0462	.0453	.0463	.0463	.0457	.0442	.0413	.0412	.0390	.0368	.0362	.0328	
21.500	.0544			.0441					.0455				.0339		
63.000	.0000								.0000				.0000		
64.000									.0000				.0000		
65.000									.0000				.0000		
65.500	.0000				.0000				.0000				.0000		.0000
105.000					.0000				.0000				.0000		
111.000					.0000				.0000				.0000		
112.000					.0000				.0000				.0000		
113.000					.0000				.0000				.0000		
116.000					.0000				.0000		.0000		.0000		
135.000	.0000				.0000				.0000		.0000		.0000		
149.000					.0000				.0000		.0000		.0000		
180.000	.0000				.0000				.0000		.0000		.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

FH1



(CTK830)

AEDC VA352 OH48 02 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HQ

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.0314	.0325	.0289	.0276	.0260	.0264	.0254	.0000	.0265	.0000	.0255
21.500			.0340								
39.000											.0000
52.500											
55.000			.0000								
65.000			.0000								
68.000											
100.000			.0000								
108.000			.0000								
112.000					.0000						
113.000								.0000			

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HQ

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

PHI

.000	.3001	.4148	.4228	.2886	.2420	.2112	.1859	.1549	.1436	.1330	.1262	.1166	.0000
10.000													
14.000													
20.000							.0000					.0000	
22.000							.0000					.0000	
24.500							.0000					.0000	
35.000							.0000					.0000	
39.000							.0000					.0000	
42.500							.0000					.0000	
48.000							.0000					.0000	
60.000							.0000					.0000	
119.000			.0000		.0000		.0000		.0000			.0000	
180.000												.0000	

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

PHI

.000	.1123	.1035	.0986	.0885	.0883	.0862	.0863						
10.000				.0000									
20.000				.0000									
25.500				.0000									
40.000				.0000									
45.500				.0000									
131.200					.0000								
145.400						.0000							.0000
146.200							.0000						

(CTKB30)

AEDC VA352 CH4B O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L .1200 .1250 .1300 .1350 .1400 .1450 .1500 .1550 .1600 .1650 .1700 .1750 .1800 .1850 .1900

PHI

156.000
159.200
170.750
171.900
173.400
180.000

X/L

PHI

.0000
11.500
12.000
21.500
23.000
24.000
31.500
34.000
35.000
40.000
45.000
51.000
57.500
59.500
61.000
65.000
70.000
96.500
105.000
106.000
135.000
140.000
141.400
151.000
180.000

X/L

PHI

.0000
21.500
63.000
64.000
65.000
65.500

(CTK830)

AEDC VA352 CH4B 02 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000					.0000				.0000						
135.000	.0000				.0000				.0000						
149.000					.0000				.0000						
180.000	.0000				.0000				.0000						

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
-----	-------	-------	-------	-------	-------	-------	--------	--------	--------	--------	--------	--------

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

PHI												
.000	.0650	.0681	.0674	.0702	.0644	.0689	.0728	.0000	.0760	.0000	.0785	
21.500		.0643										
39.000						.0000					.0000	
52.500			.0000									
55.000			.0000									
65.000			.0000									
68.000			.0000			.0000						
100.000			.0000									
108.000			.0000			.0000						
112.000						.0000						
113.000						.0000						

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI														
.000	.2672	.3965	.4130	.2997		.2541	.2256	.1988	.1708	.1569	.1472	.1404	.1319	.1219
10.000														
14.000								.0000						
20.000								.0000						
22.000								.0000						
24.500								.0000						
35.000								.0000						
39.000								.0000						
42.500								.0000						
48.000								.0000						
60.000								.0000						
115.000								.0000						
180.000			.0000			.0000	.1600	.1620	.1670	.1690	.1700	.1800	.1810	.1820

DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

PAGE 402

(CTRB30)

AEDC VA352 OH4B 02 CR8. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1700	.1780	.1800	.1810	.1820
PM1														
.000	.1308		.1203	.1146	.1022		.1054			.1039		.1046		
10.000					.0000									
20.000					.0000									
25.500					.0000									
40.000					.0000									
45.500					.0000									
131.200									.0000					
145.400													.0000	
146.200								.0000					.0000	
156.000														.0000
159.250														
170.700									.0000					
171.900														
173.400		.0000			.0000	.0000				.0000				
180.000														
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.4000	.4250	.4500	.4750
PM1														
.000	.1040			.0964	.0000	.0866	.0868	.0805	.0929	.0998	.0877	.0815	.0838	.0773
11.500				.0000				.0000						
12.000														
21.500								.0997				.0835		
23.000														
24.000				.1182										
31.500				.1322										
34.000								.0000						
35.000				.1270				.1563						
40.000				.1199				.1037						
45.000														
51.000				.0000				.0000				.0000		
57.500														
59.500								.0000						
61.000								.0000						
65.000								.0000						
70.000								.0000						
96.500				.0000										
105.000												.0000		
106.000								.0000						
135.000								.0000						
140.000				.0000										
141.400	.0000													
151.000		.0000												
180.000			.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250
														.8290



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTK830)

AEDC VA352 OH4B O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FHI	.000	.0717	.0711	.0715	.0686	.0732	.0736	.0749	.0758	.0743	.0808	.0831	.0824	.0971	.1034
21.500	.0765				.0638					.0779				.0901	
63.000	.0000									.0000				.0000	
64.000										.0000				.0000	
65.000						.0000				.0000				.0000	
65.500						.0000				.0000				.0000	
105.000	.0000					.0000				.0000				.0000	.0000
111.000						.0000				.0000				.0000	
112.000						.0000				.0000				.0000	
113.000						.0000				.0000				.0000	
116.000						.0000				.0000	.0000			.0000	
135.000	.0000					.0000				.0000	.0000			.0000	
149.000	.0000					.0000				.0000	.0000			.0000	
180.000	.0000					.0000				.0000	.0000			.0000	
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
FHI	.000	.1090	.1108	.1086	.1136	.1059	.1143	.1201	.0000	.1175	.0000	.1232			
21.500			.1114												
39.000							.0000	.0000							
52.500							.0000								
55.000				.0000											
65.000				.0000											
68.000				.0000											
100.000				.0000											
108.000				.0000											
112.000				.0000				.0000							
113.000										.0000					

AEDC VA352 CH48 O2 ORB. LEFT MAIN NOZZLE

(CTKN30) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XREF = .0000 IN.
 LREF = 22.3803 IN. YREF = .0000 IN.
 BREF = 16.3919 IN. ZREF = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B,FLAF = .000 ELEVON = .000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0099 .0176 .0111 .0047
 25.000 .0111 .0214
 45.000 .0056 .0059 .0055 .0061 .0067
 65.000 .0120 .0117 .0133
 90.000 .0148 .0158 .0159 .0175
 135.000 .0149
 315.000 .0073

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0285 .0429 .0277 .0086
 25.000 .0352 .0554
 45.000 .0102 .0093 .0075 .0058 .0077
 65.000 .0142 .0137 .0117
 90.000 .0204 .0180 .0165 .0150
 135.000 .0029
 315.000 .0188

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0360 .0791 .0559 .0159
 25.000 .0692 .0879
 45.000 .0216 .0190 .0137 .0095 .0130
 65.000 .0308 .0318 .0318
 90.000 .0391 .0366 .0365 .0358
 135.000 .0027
 315.000 .0411



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

PAGE 405

AEDC VA352 CH4B Q2 ORB. BASE PLATE

(CTKF3D) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .9175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = .000 ELEVOM = .000
 HAL/RT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HQ

Y .0000 1.2250 1.9250

Z

5.600 .0010 .0013
 7.520 .0004 .0012

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HQ

Y .0000 1.2250 1.9250

Z

5.600 .0005 .0007
 7.520 .0013 .0008

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HQ

Y .0000 1.2250 1.9250

Z

5.600 .0009 .0027
 7.520 .0016 .0009

(CTKY30) (15 JAN 75)

AEDC VA352 CH4B Q2 CR8, FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0892 .0735 .0595 .0544 .0441 .0455 .0339 .0340

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0996 .0907 .0748 .0649 .0535 .0601 .0521 .0643

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1182 .0997 .0835 .0765 .0638 .0779 .0901 .1114

PARAMETRIC DATA

BETA = .0000 RN/L = 2.000
 B.FLAP = .0000 ELEVON = .000
 HAW/HT = .0000



EXTRAPOLATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

(CTKB31) (15 JAN 75)

MEPC VA352 CH4B 02 CRB. FUSELAGE

PARAMETRIC DATA

BETA	=	.000	RN/L	=	.500
B.FLAP	=	.000	ELEVON	=	.000
HAW/HT	=	.000			

REFERENCE DATA

\$REF =	.0238 SQ.FT.	XHRF =	.0000 IN.
LREF =	22.5053 IN.	YHRF =	.0000 IN.
BREF =	16.3919 IN.	ZHRF =	.0000 IN.
SCALE =	.0175 SCALE		

11	=	92.933	91	=	.523	HREF	=	.018
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DEPENDENT VARIABLE HU/HQ

SECTION (1) ORBITER FUSELAGE

[illegible]

FBI	.000	.3364	.4315	.4158	.2767	.2281	.1948	.1685	.1404	.1237	.1160	.1077	.1035
-----	------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

10,000
10,000

	1970	1980	1990	2000	2010	2020
Total population	14,000	14,000	14,000	14,000	14,000	14,000
Population aged 65 and over	1,000	1,000	1,000	1,000	1,000	1,000
Population aged 65 and over as % of total	7.1	7.1	7.1	7.1	7.1	7.1

	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884	1883	1882	1881	1880	1879	1878	1877	1876	1875	1874	1873	1872	1871	1870	1869	1868	1867	1866	1865	1864	1863	1862	1861	1860	1859	1858	1857	1856	1855	1854	1853	1852	1851	1850	1849	1848	1847	1846	1845	1844	1843	1842	1841	1840	1839	1838	1837	1836	1835	1834	1833	1832	1831	1830	1829	1828	1827	1826	1825	1824	1823	1822	1821	1820	1819	1818	1817	1816	1815	1814	1813	1812	1811	1810	1809	1808	1807	1806	1805	1804	1803	1802	1801	1800	1799	1798	1797	1796	1795	1794	1793	1792	1791	1790	1789	1788	1787	1786	1785	1784	1783	1782	1781	1780	1779	1778	1777	1776	1775	1774	1773	1772	1771	1770	1769	1768	1767	1766	1765	1764	1763	1762	1761	1760	1759	1758	1757	1756	1755	1754	1753	1752	1751	1750	1749	1748	1747	1746	1745	1744	1743	1742	1741	1740	1739	1738	1737	1736	1735	1734	1733	1732	1731	1730	1729	1728	1727	1726	1725	1724	1723	1722	1721	1720	1719	1718	1717	1716	1715	1714	1713	1712	1711	1710	1709	1708	1707	1706	1705	1704	1703	1702	1701	1700	1699	1698	1697	1696	1695	1694	1693	1692	1691	1690	1689	1688	1687	1686	1685	1684	1683	1682	1681	1680	1679	1678	1677	1676	1675	1674	1673	1672	1671	1670	1669	1668	1667	1666	1665	1664	1663	1662	1661	1660	1659	1658	1657	1656	1655	1654	1653	1652	1651	1650	1649	1648	1647	1646	1645	1644	1643	1642	1641	1640	1639	1638	1637	1636	1635	1634	1633	1632	1631	1630	1629	1628	1627	1626	1625	1624	1623	1622	1621	1620	1619	1618	1617	1616	1615	1614	1613	1612	1611	1610	1609	1608	1607	1606	1605	1604	1603	1602	1601	1600	1599	1598	1597	1596	1595	1594	1593	1592	1591	1590	1589	1588	1587	1586	1585	1584	1583	1582	1581	1580	1579	1578	1577	1576	1575	1574	1573	1572	1571	1570	1569	1568	1567	1566	1565	1564	1563	1562	1561	1560	1559	1558	1557	1556	1555	1554	1553	1552	1551	1550	1549	1548	1547	1546	1545	1544	1543	1542	1541	1540	1539	1538	1537	1536	1535	1534	1533	1532	1531	1530	1529	1528	1
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[illegible]

.1820
.1810
.1800
.1780
.1700
.1690
.1670
.1620
.1600
.1560
.1500
.1400
.1300
.1250
.1200

25,500 .0000

49,000 .0000

[illegible]

(CTKB31)

AEDC VA352 OH48 C2 CR8, FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) CRBITER FUSELAGE	DEPENDENT VARIABLE HU/HG
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
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79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PM1															
12.000								.0000							
21.500								.0744				.0616			
23.000															
24.000				.0891				.0000							
31.500				.1018											
34.000															
35.000				.1022				.0836							
40.000				.1057				.0843							
45.000															
51.000				.0000				.0000							
57.500															
59.500								.0000				.0000			
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.500				.0000											
105.000															
106.000								.0000				.0000			
135.000								.0000				.0000			
140.000				.0000											
141.400	.0000														
151.000		.0000													
180.000				.0000		.0000		.0000				.0000			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PM1															
.000															
21.500	.0501	.0796	.0486	.0496	.0484	.0468	.0466	.0452	.0424	.0430	.0404	.0400	.0362	.0328	
63.000	.0565				.0462				.0468				.0354		
64.000	.0000														
65.000									.0000				.0000		
65.500					.0000										
105.000	.0000				.0000				.0000				.0000		
111.000													.0000		
112.000					.0000										
113.000					.0000										
116.000											.0000				
135.000	.0000				.0000				.0000						
149.000					.0000				.0000						
180.000	.0000				.0000				.0000		.0000				
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

III

DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTKB31)

AEDC VA352 CH48 02 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI												
.000	.0313	.0294	.0258	.0244	.0205	.0206	.0176	.0000	.0179	.0000	.0150	
21.500			.0280									
39.000					.0000	.0000	.0000				.0000	
52.500			.0000									
55.000			.0000									
65.000			.0000		.0000							
68.000												
100.000			.0000									
108.000			.0000		.0000							
112.000						.0000						
113.000							.0000					

MACH (1) = 8.000 ALPHA (2) = 30.000 T1 = 92.933 Q1 = .523 WREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.3085	.4263	.4369	.3032	.2480	.2234	.1847	.1602	.1444	.1364	.1283	.1272	.1272	.1272	.1272
10.000							.0000								.0000
14.000															.0000
20.000							.0000								.0000
22.000															.0000
24.500							.0000								.0000
35.000							.0000								.0000
39.000							.0000								.0000
42.500							.0000								.0000
48.000							.0000								.0000
60.000							.0000								.0000
119.000			.0000		.0000		.0000				.0000				.0000
180.000						.0000									.0000

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

PHI															
.000	.1178	.1090	.1024	.0947	.0945	.0922	.0911								
10.000				.0000											
20.000				.0000											
25.500				.0000											
40.000				.0000											
45.500				.0000											

131.200 .0000

145.400 .0000

.0000

146.200

AEDC VA352 CH48 O2 CRB. FUSELAGE (CTKB31)

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FH1															
156.000														.0000	.0000
159.200															
170.700										.0000		.0000			
171.900															
173.400						.0000									
180.000		.0000			.0000	.0000					.0000		.0000		
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FH1															
.0000	.0900		.0828	.0900	.0751	.0746	.0768	.0850	.0746	.0737	.0708	.0681	.0631		
11.500															
12.000															
21.500															
23.000															
24.000				.1053											
31.500				.1201											
34.000															
35.000				.1178											
40.000				.1144											
45.000															
51.000				.0000											
57.500															
59.500															
61.000															
65.000															
70.000															
96.500				.0000											
105.000															
106.000															
135.000															
140.000				.0000											
141.400			.0000												
151.000				.0000											
180.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FH1															
.0000	.0628	.0772	.0633	.0662	.0620	.0606	.0596	.0578	.0535	.0522	.0505	.0484	.0437	.0422	
21.500					.0560				.0540				.0431		
63.000															
64.000															
65.000															
65.500					.0000										



STANDARDIZED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKB31)

AFDC VA352 CH4B 02 ORB, FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PH1															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000						.0000				
116.000															
135.000	.0000				.0000				.0000						
149.000															
180.000					.0000				.0000				.0000		

.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
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[illegible]

MACH (1) =	8.000	ALPHA (3) =	35.000	TI =	92.933	QI =	.523	WREF =	.018
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DEPENDENT VARIABLE HU/HQ

PHI	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
.000	.2786	.4154	.4308	.3073	.2637	.2374	.2049	.1773	.1623				.1531	.1445	.1410
10.000														.0000	.0000
14.000								.0000							.0000
20.000								.0000							.0000
22.000								.0000							.0000
24.500								.0000							.0000
35.000								.0000							.0000
39.000								.0000							.0000
42.500								.0000				.0000			.0000
48.000								.0000							.0000
60.000								.0000							.0000
115.000								.0000							.0000
180.000			.0000		.0000			.0000			.0000				.0000
/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1740	.1800	.1810	.1820

(CTK831)

AEDC VA352 CH48 O2 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1760	.1800	.1810	.1820
PHI	.000	.1336	.1264	.1159	.1102	.1067				.1072		.1051		
10.000					.0000									
20.000					.0000									
25.000					.0000									
40.000					.0000									
45.000					.0000									
131.200								.0000						
145.400							.0000						.0000	
146.200								.0000					.0000	
156.000														.0000
159.200														
170.700											.0000			.0000
171.900														
173.400						.0000	.0000							
180.000					.0000	.0000	.0000							

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI		.1066		.0968	.0000	.0943	.0898	.0848	.0954	.1013	.0864	.0828	.0810	.0771	.0757
11.000				.0000											
12.000								.0000							
21.000												.0855			
23.000								.1028							
24.000				.1241											
31.000				.1362											
34.000								.0000							
35.000				.1304											
40.000				.1204				.1135							
45.000								.1083							
51.000				.0000				.0000							
57.000								.0000				.0000			
59.000								.0000							
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.000								.0000							
105.000								.0000							
106.000								.0000							
135.000								.0000							
140.000				.0000				.0000							
141.400								.0000							
151.000	.0000		.0000					.0000							
180.000				.0000		.0000		.0000							

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
10.000															
12.000															
21.000															
23.000															
24.000															
31.000															
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65.000															
70.000															
96.000															
105.000															
106.000															
135.000															
140.000															
141.400															
151.000															
180.000															



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTK831)

AEDC VA352 CH4B 02 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
FHI															
.000	.0731	.0720	.0723	.0693	.0699	.0707	.0680	.0673	.0626	.0626	.0598	.0561	.0530	.0492	
21.500	.0785				.0676				.0667				.0521		
63.000	.0000														
64.000															
65.000									.0000				.0000		
65.500					.0000										
105.000	.0000				.0000				.0000				.0000		
111.000					.0000										
112.000					.0000										
113.000					.0000						.0000				
116.000					.0000				.0000						
135.000	.0000				.0000						.0000				
149.000	.0000				.0000				.0000						
180.000	.0000				.0000								.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
FHI															
.000	.0469	.0456	.0414	.0397	.0346	.0321	.0300	.0000		.0292	.0000	.0273			
21.500			.0453												
39.000						.0000							.0000		
52.500															
55.000			.0000			.0000									
65.000			.0000												
68.000					.0000										
100.000			.0000												
108.000			.0000												
112.000					.0000										
113.000									.0000						

(CTKN31) (15 JAN 75)

REFERENCE DATA

SRF = .8238 SQ.FT. XMRP = .0000 IN.
 LRF = 22.5803 IN. YMRP = .0000 IN.
 BRP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.L.FLAP = .000 ELEVON = .000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) NOZZLE

DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0051 .0082 .0057 .0023
 25.000 .0053 .0104
 45.000 .0016 .0017 .0015 .0013 .0012
 65.000 .0036 .0020 .0023
 90.000 .0038 .0044 .0043 .0050
 135.000 .0065
 315.000 .0029

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) NOZZLE

DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0108 .0175 .0120 .0050
 25.000 .0126 .0232
 45.000 .0038 .0038 .0019 .0022 .0019
 65.000 .0041 .0030 .0034
 90.000 .0055 .0053 .0056 .0060
 135.000 .0020
 315.000 .0068

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) NOZZLE

DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0225 .0314 .0215 .0074
 25.000 .0277 .0401
 45.000 .0071 .0062 .0042 .0036 .0030
 65.000 .0039 .0045 .0052
 90.000 .0085 .0089 .0091
 135.000 .0029
 315.000 .0154



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKF31) (15 JAN 75)

AEDC VA352 CH4B Q2 CR8, BASE PLATE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5893 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 92.933 Q1 = .523 HREF = .018

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0008 .0013
 7.520 .0010 .0015

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 92.933 Q1 = .523 HREF = .018

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0013 .0010
 7.520 .0009 .0013

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 92.933 Q1 = .523 HREF = .018

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0012 .0017
 7.520 .0022 .0010

PARAMETRIC DATA

BETA = .000 RN/L = .500
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .000

AEDC VA352 CH4B 02 ORB. FUSELAGE Y=0.875 (CTKY31) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 T1 = 92.933 Q1 = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0891 .0744 .0616 .0565 .0462 .0468 .0354 .0280

MACH (1) = 8.000 ALPHA (2) = 30.000 T1 = 92.933 Q1 = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1053 .0887 .0766 .0693 .0560 .0540 .0431 .0378

MACH (1) = 8.000 ALPHA (3) = 35.000 T1 = 92.933 Q1 = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1241 .1028 .0855 .0785 .0676 .0667 .0521 .0453

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = .000 ELEVON = .000
 HAW/WT = .000



TABULATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

(CTK832) (15 JAN 75)

AEDC VA352 CH48 O2 CRB. FUSELAGE

PARAMETRIC DATA

REFERENCE DATA

BETA = .000 RN/L = 1.000
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 Q1 = 1.000 HREF = .024

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0800 .0900 .1000

FH1
.000 .2993 .4204 .4150 .2896 .2429 .2136 .1907 .1575 .1464 .1324 .1256 .1140 .0000
10.000
14.000
20.000
22.000
24.500
35.000
39.000
42.500
48.000
60.000
119.000
180.000

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1820

FH1
.000 .1101 .1036 .0988 .0884 .0920 .0863 .0872
10.000
20.000
25.500
40.000
45.500
131.200
145.400
146.200
156.000
159.200
170.700
171.900
173.400
180.000

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FH1
.000 .0879 .0797 .0000 .0716 .0728 .0674 .0751 .0822 .0710 .0704 .0678 .0640 .0605
11.500

(CTK832)

AEDC VA352 CH4B O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/H0

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

X/L

.5000

.5250

.5500

.5750

.6000

.6250

.6500

.6750

.7000

.7250

.7500

.7750

.8000

.8250

.8500

.8750

.9000

.9250

.9500

.9750

1.0000

1.0130

1.0140

1.0250

1.0380

1.0500

PHI

.000

.0599

.0604

.0589

.0624

.0619

.0536

.0586

.0578

.0544

.0502

.0554

.0500

.0500

.0500

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.0500

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X/L

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(CTK832)

AEDC VA352 OH4B O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FH1															
156.000														.0000	.0000
159.200															
170.700															
171.900										.0000		.0000			
173.400															
180.000		.0000			.0000	.0000	.0000								

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FH1															
.000	.1058			.0970	.0000	.0847	.0865	.0816	.0914	.1002	.0857	.0823	.0781	.0746	.0729
11.500				.0000											
12.000								.0000							
21.500								.1029				.0839			
23.000															
24.000				.1225											
31.500				.1357											
34.000								.0000							
35.000				.1297											
40.000				.1183											
45.000								.0000							
51.000				.0000											
57.500								.0000				.0000			
59.500															
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.500				.0000											
105.000												.0000			
106.000															
135.000															
140.000				.0000											
141.400	.0000														
151.000			.0000												
180.000				.0000	.0000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
FH1															
.000	.0705	.0649	.0697	.0656	.0702	.0681	.0675	.0660	.0613	.0614	.0596	.0548	.0552	.0492	
21.500	.0764				.0625										
63.000	.0000								.0639					.0490	
64.000									.0000						
65.000					.0000										
65.500														.0000	



STABILIZED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTKB32)

MEDC VA352 CH4B 02 CRB. FUSELAGE

$$\text{MACH} (1) = 8.000 \quad \text{ALPHA} (2) = 35.000$$

SECTION 1 CARBITER FUSELAGE

[illegible]

PHI

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2
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000' 111

112.000

113.000

116.000

135,000

149.055

182.000

.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
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FBI

2: 500	.0460	.0456	.0397	.0340	.0324	.0299	.0298	.0280
2: 500	.0443							

05-12
000 03

52. 5771

[illegible]

55. 0000

69 69

1988

מחבר: ד"ר יצחק שניידר

108.5553
112.0883

112.050
147.800

113,000

MACH (1) =	8.000	ALPHA (3) =	45.000	TI	=	93.400	QI	=	1.000	HREF	=	.024
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SECTION (1) ORBITER FUSELAGE	DEPENDENT VARIABLE HU/HG
1	1
2	2
3	3
4	4
5	5
6	6
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11	11
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88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100																																																																																						
X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0850	.0900	.0950	.1000	.1050	.1100	.1150	.1200	.1250	.1300	.1350	.1400	.1450	.1500	.1550	.1600	.1650	.1700	.1750	.1800	.1850	.1900	.1950	.2000	.2050	.2100	.2150	.2200	.2250	.2300	.2350	.2400	.2450	.2500	.2550	.2600	.2650	.2700	.2750	.2800	.2850	.2900	.2950	.3000	.3050	.3100	.3150	.3200	.3250	.3300	.3350	.3400	.3450	.3500	.3550	.3600	.3650	.3700	.3750	.3800	.3850	.3900	.3950	.4000	.4050	.4100	.4150	.4200	.4250	.4300	.4350	.4400	.4450	.4500	.4550	.4600	.4650	.4700	.4750	.4800	.4850	.4900	.4950	.5000	.5050	.5100	.5150	.5200	.5250	.5300	.5350	.5400	.5450	.5500	.5550	.5600	.5650	.5700	.5750	.5800	.5850	.5900	.5950	.6000	.6050	.6100	.6150	.6200	.6250	.6300	.6350	.6400	.6450	.6500	.6550	.6600	.6650	.6700	.6750	.6800	.6850	.6900	.6950	.7000	.7050	.7100	.7150	.7200	.7250	.7300	.7350	.7400	.7450	.7500	.7550	.7600	.7650	.7700	.7750	.7800	.7850	.7900	.7950	.8000	.8050	.8100	.8150	.8200	.8250	.8300	.8350	.8400	.8450	.8500	.8550	.8600	.8650	.8700	.8750	.8800	.8850	.8900	.8950	.9000	.9050	.9100	.9150	.9200	.9250	.9300	.9350	.9400	.9450	.9500	.9550	.9600	.9650	.9700	.9750	.9800	.9850	.9900	.9950	1.0000

FBI

Year	1900	1905	1910	1915	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
Population	1,000	2,076	3,615	3,925	3,058	2,752	2,493	2,260	1,922	1,713	1,643	1,592	1,541	1,490	1,439	1,388	1,337	1,286	1,235	1,184	1,133	1,082	1,031	980	929

10.0000

14.055

20.000

22.000

24.500

35.000

39.070

42.500

48.000

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19.000

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[illegible]

(CTKB32)

AEDC VA352 CH4B O2 ORB. FUSELAGE

MACH (1) = 0.000 ALPHA (3) = 45.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HQ

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.1516	.1459	.1395	.1291	.1329						.1312		.1283		
10.000				.0000	.0000										
20.000				.0000	.0000										
25.500				.0000	.0000										
40.000				.0000	.0000										
45.500				.0000	.0000										
131.200															
145.400															.0000
146.200								.0000							
156.000															
159.200															.0000
170.700															
171.900															
173.400															
180.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.1290			.1175	.0000	.1075	.1085	.1021	.1156	.1231	.1050	.1023	.1000	.0983	.0924
11.500				.0000											
12.000															
21.500															
23.000															
24.000				.1427											
31.500				.1571											
34.000															
35.000				.1488											
40.000				.1321											
45.000															
51.000				.0000											
57.500															
59.500															
61.000															
65.000															
70.000															
96.500				.0000											
105.000															
106.000															
135.000															
140.000															
141.400				.0000											
151.000															
180.000				.0000											
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

(CTK832)

AEDC VA352 CH48 O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 45.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE MU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI	.0888	.0814	.0873	.0874	.0856	.0830	.0796	.0793	.0737	.0753	.0733	.0655	.0630	.0568	
21.500	.0972			.0780					.0798				.0596		
63.000	.0000								.0000				.0000		
64.000									.0000				.0000		
65.000					.0000				.0000				.0000		
65.500					.0000				.0000				.0000		
105.000	.0000								.0000				.0000		
111.000					.0000				.0000				.0000		
112.000					.0000				.0000				.0000		
113.000					.0000				.0000				.0000		
116.000					.0000				.0000				.0000		
135.000	.0000				.0000				.0000				.0000		
149.000					.0000				.0000				.0000		
180.000	.0000				.0000				.0000				.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI	.0569	.0371	.0549	.0557	.0495	.0476	.0468	.0000	.0481	.0000	.0477				
21.500			.0575				.0000				.0000				
39.000							.0000				.0000				
52.500							.0000				.0000				
55.000			.0000				.0000				.0000				
65.000			.0000				.0000				.0000				
68.000							.0000				.0000				
100.000			.0000				.0000				.0000				
108.000			.0000				.0000				.0000				
112.000							.0000				.0000				
113.000							.0000				.0000				

AEDC VA352 OH48 O2 ORB. BOTTOM SURFACE WING (CTRL32) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
 B, FLAP = .000 ELEVON = .000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 Q1 = 1.000 HREF = .024

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/H0

21/8 .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0443	.0322	.2908	.1676	.2187	.0468	.1004	.0607	.0201
.002				.2699		.1890			
.003				.3575		.1802			
.004				.4021		.1685			
.005				.3186		.1555			
.006				.3262		.1300			
.007				.2612		.1189			
.025	.0356	.1706	.3774		.3063				
.030		.1625		.1815	.1852	.2133	.1366		
.100	.1084						.1394		
.177			.1138						
.200		.1079		.1323					
.299	.0761								
.300		.1079	.1057	.1651	.1429	.1339			
.302		.0908							
.303			.1143						
.428			.1164						
.444	.0658								
.487		.0936					.0981	.1768	.1316
.500									
.559		.0715							
.590	.0496								
.600		.0793	.0879						
.700		.0694	.0735	.0584	.0546		.1210		.0998
.736	.0554								
.800			.0351	.0414					
.850			.0500	.0586					
.900	.0209	.0426	.0548	.0466	.0547				.1062



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

AEDC VA352 OH4B O2 CRB. BOTTOM SURFACE WING (CTKL32)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001 .0467 .0325 .2598 .1991 .1978 .0387 .0837 .0535 .0258
 .002 .3270 .1478
 .003 .4631 .1505
 .004 .4963 .1438
 .005 .4134 .1405
 .006 .3830 .1187
 .007 .3130 .1090

.025 .0352 .1589 .3499 .2859

.050 .1616 .2195 .2041 .1909 .1198 .1262

.100 .1189 .1122 .1488

.153 .1129 .1122 .1488

.177 .1129 .1122 .1488

.200 .0846 .0980 .1066 .1267 .1875 .1920

.299 .302 .303 .303 .1182

.428 .444 .0759 .1356

.487 .0905 .1088 .1145 .1568

.500 .559 .0766 .0856 .1071 .0636 .0800

.590 .600 .0754 .0715 .0669 .0620

.700 .736 .0637 .0370 .0486 .0595 .0724

.800 .850 .0252 .0485 .0606 .0546 .0658 .0749

.900

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001 .0471 .0310 .1928 .1444 .1695 .0263 .0667 .0437 .0250
 .002 .2433 .1075
 .003 .4167 .1205
 .004 .3966 .1257
 .005 .3759 .1222
 .006 .3232 .1192
 .007 .2822 .1141

.025 .0329 .1330 .2749 .2926

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKL32)

MACH (1) = 0.000 ALPHA (3) = 45.000

DEPENDENT VARIABLE HU/HO

SECTION (1) BOTTOM SURF. WING

24/B	.2500	.3010	.3400	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050				.1461		.2210	.2113	.1869		.1012		
.100										.1093		
.153	.1294											
.177				.1111	.1022	.1490						
.200												
.299	.0968											
.300				.0972	.0979		.1273	.1494	.1371			
.302				.0940			.1291					
.303						.1136						
.428												
.444	.0862											
.487					.0898		.1224	.1237		.1158		
.500												
.559				.0801								
.590	.0716											
.600					.0873	.1050			.0675			
.700				.0789	.0801	.0697	.0703			.0673		
.736	.0834											
.800						.0458	.0562					
.850						.0786	.0866					
.900	.0311			.0579	.0633	.0723	.0791			.0841		



REFERENCE DATA

BREF = .8238 SQ.FT.

XMRP = .0000 IN.

BETA = .000 RN/L = 1.000

LREF = 22.5803 IN.

YMRP = .0000 IN.

B.FLAP = .0000 ELEVON = .000

BREF = 16.3919 IN.

ZMRP = .0000 IN.

HAM/HT = .000

SCALE = .0175 SCALE

PARAMETRIC DATA

MACH (1) = 8.000

ALPHA (1) = 30.000

TI = 93.400

QI = 1.000

HREF = .024

SECTION (1) NOZZLE

DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0151	.0207	.0146	.0045	
25.000	.0192	.0249			
45.000	.0045	.0045	.0030	.0019	.0028
65.000	.0030	.0033	.0033		
90.000	.0077	.0083	.0071	.0061	
135.000	.0017				
315.000	.0100				

SECTION (1) NOZZLE

DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0297	.0356	.0287	.0091	
25.000	.0351	.0338			
45.000	.0107	.0095	.0074	.0042	.0037
65.000	.0072	.0071	.0077		
90.000	.0173	.0177	.0173	.0148	
135.000	.0022				
315.000	.0212				

SECTION (1) NOZZLE

DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0536	.0821	.0429	.0208	
25.000	.0857	.0775			
45.000	.0200	.0190	.0165	.0094	.0108
65.000	.0020	.0231	.0246		
90.000	.0516	.0549	.0583	.0564	
135.000	.0071				
315.000	.0442				

REFERENCE DATA

SREF = .8236 SQ.FT.
XMRP = .0000 IN.
BETA = .000
RN/L = 1.000

LREF = 22.5803 IN.
YMRP = .0000 IN.
B.FLAP = .000
ELEVON = .000

BREF = 16.3919 IN.
ZMRP = .0000 IN.
HAM/HT = .000

SCALE = .0175 SCALE

MACH (1) = 8.000

ALPHA (1) = 30.000

TI = 93.400

Q1 = 1.000

HREF = .024

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0005 .0006

7.520 .0000 .0009

MACH (1) = 8.000

ALPHA (2) = 35.000

TI = 93.400

Q1 = 1.000

HREF = .024

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0010 .0014

7.520 .0018 .0011

MACH (1) = 8.000

ALPHA (3) = 45.000

TI = 93.400

Q1 = 1.000

HREF = .024

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0015 .0026

7.520 .0017 .0017

PARAMETRIC DATA



AEDC VA352 OH4B 02 ORB. FUSELAGE Y=0.875

(CTKY32) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 93.400 Q1 = 1.000 HREF = .024

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/H0

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1032 .0847 .0700 .0663 .0536 .0554 .0396 .0343

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 93.400 Q1 = 1.000 HREF = .024

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/H0

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1225 .1029 .0839 .0764 .0625 .0639 .0490 .0443

MACH (1) = 8.000 ALPHA (3) = 45.000 T1 = 93.400 Q1 = 1.000 HREF = .024

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/H0

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1427 .1220 .1051 .0972 .0780 .0798 .0596 .0575

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

PARAMETRIC DATA

BETA	=	.000	RN/L	=	1.250
B.FLAP	=	.000	ELEVON	=	.000
HAW/HT	=	.000			

```

MACH ( 1 ) = 8.999    ALPHA ( 1 ) = 30.999    TI = 94.250    QI = 1.253    HREF = .027

```

SECTION (1) ORBITER FUSELAGE		DEPENDENT VARIABLE MU/HQ	
X/L			
.9900	.0100	.0200	.0400
.9950	.0050	.0300	.0600
		.0700	.0750
			.0800
			.0900
			.1000

FMI	.3018	.4215	.4260	.2881	.2437	.2172	.1856	.1539	.1424	.1316	.1239	.1171
.0000												.0000
10.000							.0000					.0000
14.000												.0000
20.000							.0000					.0000
22.000												.0000
24.500							.0000					.0000
35.000												.0000
39.000							.0000					.0000
42.500									.0000			.0000
48.000							.0000					.0000
60.000												.0000
119.000							.0000					.0000
180.000			.0000	.0000			.0000					.0000

[illegible]

FH1	.1112	.1023	.0979	.0692	.0904	.0882	.0871
.000				.0692			
10.000				.0000			
20.000				.0000			
25.500				.0000			
40.000				.0000			
45.500				.0000			
131.200					.0000		
145.400					.0000		.0000
146.200					.0000		.0000
156.000							
159.200							
170.700							.0000
171.900				.0000		.0000	
173.400				.0000		.0000	
180.000	.0000			.0000		.0000	
/L	.1830	.1900	.2000	.2250	.2500	.2750	.3000
				.3250	.3500	.3750	.4000
						.4250	.4500
							.4750
FH1							
.000	.0674	.0800	.0714	.0707	.0671	.0833	.0656
11.500		.0000					.0617



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTK833)

AEDC VA352 OH4B O2 ORB. FUSELAGE

MACH (1) = 0.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1030	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FHI															
12.000								.0000				.0725			
21.500								.0858							
23.000															
24.000				.1016											
31.500				.1173				.0000							
34.000															
35.000				.1144				.0976							
40.000				.1095				.0950							
45.000															
51.000				.0000				.0000				.0000			
57.500															
59.500								.0000							
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.500				.0000								.0000			
105.000								.0000				.0000			
106.000								.0000				.0000			
135.000															
140.000				.0000											
141.400															
151.000				.0000								.0000			
180.000				.0000		.0000		.0000	.7000	.7250	.7500	.7750	.8000	.8250	.8290
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750							
FHI															
.000	.0523	.0590	.0594	.0576	.0592	.0574	.0564	.0539	.0509	.0510	.0502	.0470	.0443	.0400	
21.500	.0650				.0517				.0544				.0400		
63.000	.0000														
64.000									.0000				.0000		
65.000					.0000								.0000		
105.000	.0000				.0000				.0000				.0000		.0000
111.000															
112.000					.0000										
113.000					.0000										
116.000											.0000				
135.000	.0000				.0000			.0000							
149.000									.0000		.0000				
180.000	.0000				.0000			.0000				.0000			
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

FH:

AEDC VA352 CH4B O2 ORB. FUSELAGE (CTK833)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.0384	.0373	.0346	.0336	.0281	.0276	.0255	.0000	.0247	.0000	.0237
21.500			.0361								
39.000											.0000
52.500						.0000					
55.000			.0000								
65.000			.0000								
68.000						.0000					
100.000			.0000								
108.000			.0000								
112.000						.0000					
113.000							.0000				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.250 QI = 1.253 HREF = .027

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

PHI

.000	.2701	.4055	.4143	.2977	.2544	.2276	.1995	.1722	.1578	.1461	.1388	.1321
10.000												.0000
14.000							.0000					
20.000							.0000					.0000
22.000							.0000					.0000
24.500							.0000					.0000
35.000							.0000					.0000
39.000							.0000					.0000
42.500							.0000			.0000		
48.000							.0000					.0000
60.000							.0000			.0000		.0000
119.000							.0000					.0000
180.000			.0000		.0000		.0000					

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

PHI

.000	.1288	.1209	.1130	.1048	.1053					.1045	.1015	
10.000				.0000								
20.000				.0000								
25.500				.0000								
40.000				.0000								
45.500				.0000								
131.200								.0000				.0000
145.400												
146.200								.0000				.0000

STABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTK833)

AFDC VA352 CH4B Q2 CRB. FUSELAGE

MACH (1) = 0.000 ALPHA (2) = 35.000

SECTION / UCRBITER FUSELAGE	DEPENDENT VARIABLE HU/HO
1	1.00
2	1.00
3	1.00
4	1.00
5	1.00
6	1.00
7	1.00
8	1.00
9	1.00
10	1.00
11	1.00
12	1.00
13	1.00
14	1.00
15	1.00
16	1.00
17	1.00
18	1.00
19	1.00
20	1.00
21	1.00
22	1.00
23	1.00
24	1.00
25	1.00
26	1.00
27	1.00
28	1.00
29	1.00
30	1.00
31	1.00
32	1.00
33	1.00
34	1.00
35	1.00
36	1.00
37	1.00
38	1.00
39	1.00
40	1.00
41	1.00
42	1.00
43	1.00
44	1.00
45	1.00
46	1.00
47	1.00
48	1.00
49	1.00
50	1.00
51	1.00
52	1.00
53	1.00
54	1.00
55	1.00
56	1.00
57	1.00
58	1.00
59	1.00
60	1.00
61	1.00
62	1.00
63	1.00
64	1.00
65	1.00
66	1.00
67	1.00
68	1.00
69	1.00
70	1.00
71	1.00
72	1.00
73	1.00
74	1.00
75	1.00
76	1.00
77	1.00
78	1.00
79	1.00
80	1.00
81	1.00
82	1.00
83	1.00
84	1.00
85	1.00
86	1.00
87	1.00
88	1.00
89	1.00
90	1.00
91	1.00
92	1.00
93	1.00
94	1.00
95	1.00
96	1.00
97	1.00
98	1.00
99	1.00
100	1.00

[illegible]

(CTKB33)

AEDC VA352 OH4B O2 CRB. FUSELAGE

MACH (1) = 0.000 ALPHA (2) = 35.000

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE MU/HG

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000	.0000				.0000				.0000		.0000				
135.000					.0000				.0000		.0000				
149.000					.0000				.0000		.0000				
180.000	.0000				.0000				.0000		.0000		.0000		.0000
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.0497	.0484	.0452	.0438	.0398	.0384	.0372	.0000		.0410	.0000	.0395			
21.500			.0456				.0000								
39.000							.0000								
52.500			.0000				.0000								
55.000			.0000				.0000								
65.000			.0000				.0000								
68.000			.0000				.0000								
100.000			.0000				.0000								
108.000			.0000				.0000								
112.000			.0000				.0000								
113.000							.0000		.0000						



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

(CTKL33) (15 JAN 75)

AEDC VA352 OH4B 02 ORB. BOTTOM SURFACE WING

PARAMETRIC DATA

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

BETA = .000 RN/L = 1.250
 S.FLAP = .000 ELEVON = .000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.250 Q1 = 1.253 HREF = .027

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HD

27/8 .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0461	.0323	.2957	.1673	.2180	.0461	.1015	.0604	.0216
.002			.2683	.1812					
.003			.3497	.1819					
.004			.3553	.1701					
.005			.3209	.1574					
.006			.3263	.1338					
.007			.2634	.1211					
.025		.1717	.3809	.2959					
.050		.1565		.1834	.1769	.2146	.1375		
.100							.1415		
.153		.1094							
.177			.1113						
.200		.1076		.1313					
.299	.0772								
.300		.1086	.1070	.2374	.1542	.1354			
.302		.0901							
.303			.1147						
.428			.1177						
.444	.0647								
.487			.0910				.1475		
.500				.0969	.2299				
.559	.0725								
.590	.0465		.0807	.0864					
.600			.0717	.0567	.0559	.1311			
.700	.0693						.1086		
.736	.0554			.0328	.0410				
.800				.0506	.0605				
.850									
.900	.0426	.0558	.0470	.0542			.1139		

AEDC VA352 CH48 O2 CRB. BOTTOM SURFACE WING (CTKL33)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.250 Q1 = 1.253 HREF = .027

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0432	.0323		.2686	.2002	.1920	.0382		.0860	.0592	.0289
.002					.3205			.1460				
.003					.4574			.1496				
.004					.4640			.1416				
.005					.4132			.1341				
.006					.3766			.1179				
.007					.3154		.2727	.1106				
.025	.0348			.1566	.3439							
.050				.1612		.2143	.2008	.1929		.1256		
.100										.1344		
.153	.1151											
.177					.1102							
.200				.1107		.1512						
.299	.0844											
.300												
.302				.0937	.1015	.1071		.1310	.2533	.2344		
.303							.1189					
.428						.1369						
.444	.0701											
.487					.0907							
.500							.1104	.1127		.1909		
.559				.0701								
.590	.0561											
.600					.0839	.1056						
.700				.0735	.0699	.0651	.0616		.0667		.0935	
.736	.0656											
.800						.0356	.0470					
.850						.0580	.0705					
.900	.0281			.0488	.0589	.0540	.0650				.0790	



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKN33) (15 JAN 75)

AEDC VA352 CH4B O2 ORB. LEFT MAIN NOZZLE

PARAMETRIC DATA

BETA = .000 RN/L = 1.250
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.250 Q1 = 1.253 HREF = .027

DEPENDENT VARIABLE HU/HO

SECTION (1) NOZZLE

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0187 .0248 .0174 .0261
25.000 .0236 .0279
45.000 .0363 .0362 .0030 .0038
65.000 .0043 .0045 .0046
90.000 .0096 .0089 .0077
135.000 .0019
315.000 .0131

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.250 Q1 = 1.253 HREF = .027

DEPENDENT VARIABLE HU/HO

SECTION (1) NOZZLE

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0328 .0404 .0336 .0104
25.000 .0392 .0375
45.000 .0126 .0109 .0078 .0051 .0049
65.000 .0087 .0097 .0110
90.000 .0228 .0226 .0221 .0196
135.000 .0023
315.000 .0225

(CTRP33) (15 JAN 75)

AEDC VA352 OH4B O2 ORB. BASE PLATE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.250 QI = 1.253 HREF = .027

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0005 .0007
 7.520 .0004 .0004

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.250 QI = 1.253 HREF = .027

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0007 .0014
 7.520 .0019 .0011

PARAMETRIC DATA

BETA = .000 RN/L = 1.250
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKY33) (15 JAN 75)

AEDC VA352 CH4B O2 ORB. FUSELAGE Y=0.875

PARAMETRIC DATA

BETA = .000 RN/L = 1.250
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

3REF = .0230 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.250 QI = 1.253 HREF = .027

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1016 .0856 .0725 .0630 .0517 .0544 .0400 .0361

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.250 QI = 1.253 HREF = .027

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1185 .1009 .0828 .0751 .0608 .0642 .0495 .0456

AEDC VA352 CH4B O2 ORB. FUSELAGE

(CTR834) (15 JAN 75)

REFERENCE DATA

BREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 1.500
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .000

MACH (1) = 0.000 ALPHA (1) = 30.000 TI = 94.900 Q1 = 1.534 HREF = .030

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.000	.3007	.4180	.4248	.2899	.2396	.2118	.1825	.1550	.1416	.1324	.1258	.1155	.0900
10.000								.0000					.0000	
14.000								.0000					.0000	
20.000								.0000					.0000	
22.000								.0000					.0000	
24.000								.0000					.0000	
35.000								.0000					.0000	
39.000								.0000					.0000	
42.500								.0000					.0000	
48.000								.0000					.0000	
60.000								.0000					.0000	
119.000								.0000					.0000	
180.000								.0000					.0000	

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.1118	.1032	.0961	.0893	.0884	.0868	.0856								
10.000				.0000											
20.000				.0000											
25.000				.0000											
40.000				.0000											
45.000				.0000											
131.200				.0000					.0000						
145.400				.0000					.0000						
146.200				.0000					.0000						
156.000				.0000					.0000						
159.200				.0000					.0000						
170.700				.0000					.0000						
171.900				.0000					.0000						
173.400				.0000					.0000						
180.000				.0000					.0000						

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0873	.0800	.0713	.0722	.0665	.0752	.0800	.0695	.0674	.0621	.0597				
.000															
11.500															



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTK834)

AEDC VA352 CH48 O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000
21.500
23.000
24.000
31.500
34.000
35.000
40.000
45.000
51.000
57.500
59.500
61.000
65.000
70.000
96.500
105.000
106.000
135.000
140.000
141.400
151.000
180.000

.0722

.0000

.0000

.0000

.0000

X/L .5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

PHI

.000
21.500
63.000
64.000
65.000
65.500
105.000
111.000
112.000
113.000
116.000
135.000
149.000
180.000

.0472
.0412

.0000

.0000

.0000

.0000

.0000

.0000

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI:

(CTK834)

AEDC VA352 CH4B 02 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .8300 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.0422	.0417	.0391	.0375	.0340	.0347	.0335	.0000	.0343	.0000	.0337
21.500			.0407								
39.000							.0000				.0000
52.500											
55.000			.0000								
65.000			.0000								
68.000							.0000				
100.000			.0000								
108.000			.0000				.0000				
112.000											
113.000							.0000				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.900 QI = 1.534 HREF = .030

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

PHI

.000	.2689	.4040	.4155	.2968	.2568	.2262	.2019	.1717	.1576	.1464	.1415	.1340	.0000	.0000
10.000							.0000							
14.000							.0000							
20.000							.0000							
22.000							.0000							
24.500							.0000							
35.000							.0000							
39.000							.0000							
42.500							.0000							
48.000							.0000							
60.000							.0000							
119.000							.0000							
180.000							.0000							

X/L .1200 .1250 .1300 .1400 .1500 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

PHI

.000	.1293	.1212	.1136	.1041	.1067	.1047	.1045	.0000	.0000	.0000	.0000	.0000
10.000				.0000								
20.000				.0000								
25.500				.0000								
40.000				.0000								
45.500				.0000								
131.800				.0000								
145.400				.0000								
146.800				.0000								



MACH (1) = 0.000 ALPHA (2) = 35.000

DEPENDENT VARIABLE HU/HQ

[illegible]

(CTK834)

AEDC VA352 CH4B O2 ORB. FUSELAGE

MACH (1) = 0.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE MU/HO

X/L	.3000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		
111.000															.0000
112.000					.0000										
113.000					.0000										
116.000											.0000				
135.000	.0000				.0000			.0000							
149.000									.0000		.0000				
180.000	.0000				.0000			.0000					.0000		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0250	1.0380	1.0500
PHI											
.000	.0611	.0610	.0598	.0604	.0538	.0592	.0580	.0000	.0600	.0000	.0592
21.500			.0585								
39.000						.0000					.0000
52.500			.0000								
55.000			.0000								
65.000											
68.000						.0000					
100.000			.0000								
108.000			.0000								
112.000					.0000						
113.000								.0000			



REFERENCE DATA PARAMETRIC DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN. BETA = .000 RM/L = 1.500
 LREF = 22.5803 IN. YMRP = .0000 IN. B.FLAP = .000 ELEVON = .000
 BREF = 16.3919 IN. ZMRP = .0000 IN. HAM/HT = .000
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.900 QI = 1.534 HREF = .030

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HD

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0434	.0316		.2940	.1652	.2097	.0466		.0982	.0602	.0078
.002					.2688	.2688		.1811				
.003					.3521	.3521		.1773				
.004					.3912	.3912		.1672				
.005					.3135	.3135		.1565				
.006					.3238	.3238		.1381				
.007					.2678	.2678		.1252				
.025	.0361		.1689	.3809			.2970					
.050			.1588			.1833	.1863	.2176		.1341		
.100										.1404		
.153	.1088											
.177				.1074	.1083							
.200						.1325						
.299	.0745											
.300				.1067	.1087	.1087	.2847	.1657	.1444			
.302			.0908									
.303						.1174						
.428					.1167							
.444	.0624											
.487				.0928			.0972	.2746		.1625		
.500			.0718									
.559												
.590	.0483											
.600				.0811	.0855				.1394			
.700	.0705	.0725	.0560		.0551							
.736	.0553											
.800			.0319	.0393								
.850			.0497	.0603								
.900	.0239	.0427	.0575	.0463	.0540							.1215

AEDC VA352 OH48 O2 CR8. BOTTOM SURFACE WING (CTKL34)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.900 Q1 = 1.534 HREF = .030

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE MU/HQ

Z/Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/Z

.001	.0436	.0322	.2693	.1975	.1898	.0373	.0910	.0672	.0498
.002			.3251	.4586	.1457				
.003			.4586	.4664	.1546				
.004			.4664	.4077	.1455				
.005			.4077	.3840	.1418				
.006			.3840	.3138	.1233				
.007			.3138	.2725	.1190				
.025	.0347	.1575	.3461						
.050		.1591		.2184	.1989	.2150	.1346		
.100							.1491		
.153	.1129		.1094						
.177		.1109		.1500					
.200	.0837								
.299		.0949	.1025	.1141	.1479	.3177	.2596		
.300									
.302					.1178				
.303				.1356					
.428									
.444	.0706		.0901						
.487		.0769		.1107	.1130		.2231		
.500									
.559									
.590	.0357								
.600		.0843	.1064			.0737			
.700		.0772	.0716	.0656	.0625				
.736	.0734			.0355	.0459		.1227		
.800				.0590	.0713				
.850		.0520	.0639	.0548	.0675				
.900	.0317						.0908		



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKN34) (15 JAN 75)

AEDC VA352 CH4B O2 ORB. LEFT MAIN NOZZLE

PARAMETRIC DATA

BETA = .000 RV/L = 1.500
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SRFP = .0238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 94.900 Q1 = 1.534 HREF = .030

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0220 .0282 .0201 .0069
25.000 .0257 .0339
45.000 .0069 .0066 .0055 .0033 .0041
65.000 .0066 .0066 .0061
90.000 .0137 .0131 .0118 .0097
135.000 .0023
315.000 .0150

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 94.900 Q1 = 1.534 HREF = .030

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0389 .0494 .0388 .0122
25.000 .0456 .0524
45.000 .0151 .0133 .0098 .0063 .0063
65.000 .0156 .0149 .0165
90.000 .0305 .0292 .0275 .0252
135.000 .0027
315.000 .0263

AEDC VA352 OH4B Q2 CRB. BASE PLATE

(CTKF34) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 94.900 Q1 =

SECTION (1) BASE PLATE

DEPENDENT VARIABLE MU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0003 .0008
 7.520 .0012 .0004

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 94.900 Q1 =

SECTION (1) BASE PLATE

DEPENDENT VARIABLE MU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0006 .0012
 7.520 .0016 .0012

PARAMETRIC DATA

BETA = .000 RN/L = 1.500
 B-FLAP = .000 ELEVON = .000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 94.900 Q1 =

1.534 HREF = .030

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 94.900 Q1 =

1.534 HREF = .030



DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

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AEDC VA352 OH4B O2 ORB. FUSELAGE Y=0.875

(CTKY34) (15 JAN 75)

REFERENCE DATA

BREF = .0238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 1.500
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.900 QI = 1.534 HREF = .030

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1048 .0871 .0722 .0642 .0520 .0548 .0412 .0407

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.900 QI = 1.534 HREF = .030

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1247 .1001 .0835 .0740 .0604 .0663 .0537 .0585

PARAMETRIC DATA

BETA = .000 RN/L = 1.750
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .0230 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.000	.3005	.4146	.3850	.2875	.2396	.2103	.1823	.1550	.1415	.1302	.1187	.1194	.0000
10.000								.0000					.0000	
14.000								.0000					.0000	
20.000								.0000					.0000	
22.000								.0000					.0000	
24.500								.0000					.0000	
35.000								.0000					.0000	
39.000								.0000					.0000	
42.500								.0000					.0000	
48.000								.0000					.0000	
60.000								.0000					.0000	
119.000								.0000					.0000	
180.000								.0000					.0000	

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.1089	.1031	.0967	.0886	.0800	.0847					.0876	.0857			
10.000				.0000	.0000										
20.000				.0000	.0000										
25.500				.0000	.0000										
40.000				.0000	.0000										
45.500				.0000	.0000										
131.200					.0000				.0000						
145.400					.0000				.0000					.0000	
146.200					.0000				.0000					.0000	
156.000					.0000				.0000					.0000	
159.200					.0000				.0000					.0000	
170.700					.0000				.0000					.0000	
171.900					.0000				.0000					.0000	
173.400					.0000				.0000					.0000	
180.000					.0000				.0000					.0000	

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0896	.0809	.0715	.0727	.0668	.0742	.0791	.0692	.0681	.0664	.0617	.0592			
.000															
11.500															



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTK835)

AEDC VA352 CH4B O2 ORB. FUSELAGE

MACH (1) = 0.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FHI

.0713

.0000

.0075

.1014

.1135

.0000

.0965

.0908

.0000

.0000

.0000

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FHI

.0512

.0470

.0000

.0000

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.0000

X/L

PH:

(CTR835)

AEDC VA352 OH4B O2 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.0519	.0534	.0510	.0523	.0466	.0500	.0511	.0000	.0534	.0000	.0543
21.500			.0518				.0000				.0000
39.000						.0000					
52.500			.0000								
55.000			.0000								
65.000			.0000								
68.000			.0000			.0000					
100.000			.0000								
106.000			.0000			.0000					
112.000						.0000					
113.000							.0000				

.0000

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 Q1 = 1.797 HREF = .033

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0800 .0900 .1000

PHI

.000	.2679	.3998	.3982	.2991	.2560	.2274	.2002	.1697	.1563	.1461	.1383	.1275
10.000												.0000
14.000							.0000					
20.000							.0000					.0000
22.000							.0000					.0000
24.500							.0000					.0000
35.000							.0000					.0000
39.000							.0000					.0000
42.500							.0000					.0000
48.000							.0000					.0000
60.000							.0000					.0000
119.000							.0000			.0000		
180.000			.0000		.0000		.0000		.0000			

.0000

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

PHI

.000	.1257	.1186	.1119	.1057	.1058	.1042	.1034
10.000				.0000			
20.000				.0000			
25.500				.0000			
40.000				.0000			
45.500				.0000			
131.200				.0000			
145.400				.0000			
146.200				.0000			.0000

.0000

.0000

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

(CTK835)

AEDC VA352 CH48 O2 CR8. FUSELAGE

MACH (1) = 0.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1700 .1780 .1800 .1810 .1820

PHI
156.000
159.200
170.700
171.900
173.400
180.000

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI
.000
11.500
12.000
21.500
24.000
31.500
34.000
35.000
40.000
45.000
51.000
57.500
59.500
61.000
65.000
70.000
96.500
105.000
106.000
135.000
140.000
141.400
151.000
180.000

X/L .5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

PHI
.000
21.500
63.000
64.000
65.000
65.500

X/L .8750 .9000 .9250 .9500 .9750 .1000

PHI
.000
21.500
63.000
64.000
65.000
65.500

X/L .9250 .9500 .9750 .1000

PHI
.000
21.500
63.000
64.000
65.000
65.500

(CTKB35)

AEDC VA352 OH4B O2 ORB. FUSELAGE

MACH (1) = 0.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000						.0000				
116.000					.0000				.0000						
135.000	.0000				.0000				.0000		.0000				
149.000					.0000				.0000				.0000		
180.000	.0000				.0000				.0000						
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.0762	.0775	.0768	.0761	.0735	.0776	.0845	.0000		.0867	.0000	.0889			
21.500			.0802				.0000						.0000		
39.000						.0000									
52.500			.0000												
55.000			.0000												
65.000			.0000												
68.000						.0000									
100.000			.0000												
108.000			.0000			.0000									
112.000						.0000			.0000						
113.000									.0000						



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKL35) (15 JAN 75)

AEDC VA352 CH4B O2 CRB. BOTTOM SURFACE WING

PARAMETRIC DATA

BETA = .000 RN/L = 1.750
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 Q1 = 1.797 HREF = .033

DEPENDENT VARIABLE HU/HO

SECTION (1) BOTTOM SURF. WING

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0428	.0313	.2907	.1625	.2114	.0478	.0788	.0587	.0418
.002			.2642	.2642	.1816				
.003			.3540	.3540	.1805				
.004			.3794	.3794	.1699				
.005			.3169	.3169	.1592				
.006			.3271	.3271	.1427				
.007			.2655	.2655	.1332				
.025	.0358	.1673	.3711	.2897			.1194		
.050		.1568		.1850	.2024	.2176	.1354		
.100	.1075								
.153			.1086						
.177		.1083		.1331					
.200	.0746								
.299		.1035	.1112	.3078	.1824	.1464			
.300		.0889							
.302			.1178						
.303			.1173						
.428									
.444	.0618								
.487		.0924							
.500			.0984	.3117		.1813			
.559	.0709								
.590	.0474								
.600		.0804	.0854			.1476			
.700	.0717	.0757	.0556	.0553			.1196		
.736	.0607								
.800		.0300	.0390						
.850		.0500	.0603						
.900	.0294	.0456	.0606	.0461	.0538				.1272

AEDC VA332 Q448 Q2 CRB. BOTTOM SURFACE WING (CYL35)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 Q1 = 1.767 HREF = .033

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE MU/HO

X/Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0418	.0319	.2602	.1954	.1854	.0363	.0958	.0684	.0517
.002			.3185			.1479			
.003			.4585			.1563			
.004			.4633			.1473			
.005			.4134			.1497			
.006			.3817			.1324			
.007			.3139			.1353			
.025	.0358		.1562	.3484		.2713			
.050							.1448		
.100			.1621	.2128	.1995	.2435	.1660		
.153	.1114								
.177			.1088						
.200				.1491					
.299	.0846								
.300			.1013	.1115		.1699	.3551	.2685	
.302			.0945						
.303						.1162			
.428				.1362					
.444	.0758								
.487			.0911						
.500					.1100	.1136	.2410		
.559			.0771						
.590	.0592								
.600			.0852	.1052			.0804		
.700			.0813	.0741	.0637	.0620		.1488	
.736	.0812								
.800				.0348	.0456				
.850				.0592	.0715				
.900	.0422		.0578	.0644	.0553	.0673		.1044	

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKN35) (15 JAN 75)

AEDC VA352 CH4B 02 CRB, LEFT MAIN NOZZLE

PARAMETRIC DATA

BETA = .000 RN/L = 1.750
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN
 .000 .0245 .0345 .0241 .0072
 25.000 .0310 .0440
 45.000 .0083 .0078 .0064 .0044 .0055
 65.000 .0102 .0100 .0084
 90.000 .0176 .0158 .0150 .0134
 135.000 .0027
 315.000 .0168

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN
 .000 .0477 .0641 .0469 .0128
 25.000 .0576 .0725
 45.000 .0206 .0168 .0114 .0577 .0088
 65.000 .0235 .0234 .0245
 90.000 .0344 .0332 .0319 .0308
 135.000 .0029
 315.000 .0334

(CTREF35) (15 JAN 75)

AEDC VA352 CH4B 02 CRB. BASE PLATE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 SREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 95.200 Q1 = 1.797 HREF = .033

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0005 .0007
 7.520 .0013 .0007

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 95.200 Q1 = 1.797 HREF = .033

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0008 .0021
 7.520 .0015 .0009

PARAMETRIC DATA

BETA = .000 RN/L = 1.750
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .000



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKY35) (15 JAN 75)
AEDC VA352 CH4B 02 ORB. FUSELAGE Y=0.875

PARAMETRIC DATA

BETA = .000 RN/L = 1.750
B.F.LAF = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 Q1 = 1.797 HREF = .033

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1014 .0875 .0713 .0638 .0533 .0557 .0470 .0518

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 Q1 = 1.797 HREF = .033

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1176 .1000 .0838 .0742 .0609 .0708 .0676 .0802

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 94.967 Q1 = 1.984 HREF = .035

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 S.FLAP = .000 ELEVON = .000
 HAM/HT = .000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

FHI

.000 .3018 .4148 .4229 .2868 .2414 .2128 .1841 .1565 .1428 .1309 .1233 .1096
 10.000 14.000 20.000 22.000 24.500 35.000 39.000 42.500 48.000 60.000 119.000 180.000
 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

X/L

.1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

FHI

.1061 .1027 .0957 .0879 .0805 .0868 .0862 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
 10.000 20.000 25.500 40.000 45.500 131.200 145.400 146.200 156.000 159.200 170.700 171.900 173.400 180.000
 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

X/L

.1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FHI

.0861 .0793 .0000 .0717 .0730 .0686 .0745 .0755 .0706 .0694 .0660 .0635 .0592 .0000 .0000



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTK836)

AEDC VA352 CH48 O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

12.000								.0000				.0734			
21.500								.0891							
23.000															
24.000				.1048											
31.500				.1164											
34.000								.0000							
35.000				.1131											
40.000				.1094				.0958							
45.000								.0906							
51.000				.0000				.0000							
57.500								.0000				.0000			
59.500								.0000							
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.500				.0000								.0000			
105.000								.0000							
106.000								.0000							
135.000								.0000							
140.000				.0000											
141.400															
151.000			.0000												
180.000				.0000				.0000							

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
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PHI

.000	.0597	.0568	.0579	.0634	.0589	.0584	.0595	.0578	.0549	.0580	.0570	.0545	.0589	.0590	
21.500	.0631				.0533				.0575				.0535		
63.000	.0000														
64.000									.0000						
65.000					.0000								.0000		
65.500					.0000				.0000				.0000		
105.000	.0000								.0000				.0000		.0000
111.000															
112.000					.0000										
113.000					.0000										
116.000											.0000				
135.000	.0000				.0000				.0000						
149.000											.0000				
180.000	.0000				.0000				.0000				.0000		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
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PHI

(C1K836)

AEDC VA352 CH4B Q2 CRB, FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEFUNCT VARIABLE HU/HG

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI												
.000	.0615	.0647	.0645	.0663	.0630	.0676	.0704	.0000	.0734	.0000	.0746	.0000
21.500			.0645				.0000					.0000
39.000												
52.500												
55.000			.0000									
65.000			.0000									
68.000						.0000						
100.000			.0000									
108.000			.0000			.0000						
112.000							.0000					
113.000									.0000			

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MACH ( 1 ) = 0.000  ALPHA ( 2 ) = 35.000  TI = 94.967  QI = 1.984  WREF = .035

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SECTION (1) ORBITER FUSELAGE	DEPENDENT VARIABLE HU/HO
1	1.0000
2	1.0000
3	1.0000
4	1.0000
5	1.0000
6	1.0000
7	1.0000
8	1.0000
9	1.0000
10	1.0000
11	1.0000
12	1.0000
13	1.0000
14	1.0000
15	1.0000
16	1.0000
17	1.0000
18	1.0000
19	1.0000
20	1.0000
21	1.0000
22	1.0000
23	1.0000
24	1.0000
25	1.0000
26	1.0000
27	1.0000
28	1.0000
29	1.0000
30	1.0000
31	1.0000
32	1.0000
33	1.0000
34	1.0000
35	1.0000
36	1.0000
37	1.0000
38	1.0000
39	1.0000
40	1.0000
41	1.0000
42	1.0000
43	1.0000
44	1.0000
45	1.0000
46	1.0000
47	1.0000
48	1.0000
49	1.0000
50	1.0000
51	1.0000
52	1.0000
53	1.0000
54	1.0000
55	1.0000
56	1.0000
57	1.0000
58	1.0000
59	1.0000
60	1.0000
61	1.0000
62	1.0000
63	1.0000
64	1.0000
65	1.0000
66	1.0000
67	1.0000
68	1.0000
69	1.0000
70	1.0000
71	1.0000
72	1.0000
73	1.0000
74	1.0000
75	1.0000
76	1.0000
77	1.0000
78	1.0000
79	1.0000
80	1.0000
81	1.0000
82	1.0000
83	1.0000
84	1.0000
85	1.0000
86	1.0000
87	1.0000
88	1.0000
89	1.0000
90	1.0000
91	1.0000
92	1.0000
93	1.0000
94	1.0000
95	1.0000
96	1.0000
97	1.0000
98	1.0000
99	1.0000
100	1.0000

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
FBI															
.000	.2664	.4009	.4062	.2996	.2550	.2265	.1976	.1707	.1578				.1478	.1432	.1285
10.000															.0000
14.000								.0000							.0000
20.000								.0000							.0000
22.000								.0000							.0000
24.500								.0000							.0000
35.000								.0000							.0000
39.000								.0000							.0000
42.500								.0000							.0000
48.000								.0000				.0000			.0000
60.000								.0000							.0000
119.000								.0000							.0000
180.000			.0000		.0000			.0000							.0000

[illegible]

(CTK836)

AECC VA352 CH48 O2 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										.0000
112.000					.0000										
113.000					.0000										
116.000	.0000				.0000				.0000						.0000
133.000					.0000				.0000						.0000
149.000					.0000				.0000						.0000
160.000	.0000				.0000				.0000						.0000

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.1033	.1062	.1068	.1113	.1035	.1126	.1176	.0000	.1184	.0000	.1218	
21.500			.1080					.0000				.0000
39.000						.0000						
52.500			.0000									
55.000			.0000									
65.000			.0000									
68.000			.0000			.0000						
100.000			.0000			.0000						
108.000			.0000			.0000						
112.000						.0000						
113.000						.0000						

MACH (1) = 8.000 ALPHA (3) = 45.000 T1 = 94.967 Q1 = 1.984 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI														
.000	.2042	.3589	.3995	.3070	.2714	.2503	.2250	.1918	.1792		.1712	.1550	.1601	.1601
10.000							.0000						.0000	.0000
14.000							.0000						.0000	.0000
20.000							.0000						.0000	.0000
22.000							.0000						.0000	.0000
24.500							.0000						.0000	.0000
35.000							.0000						.0000	.0000
39.000							.0000						.0000	.0000
42.500							.0000						.0000	.0000
48.000							.0000						.0000	.0000
60.000							.0000						.0000	.0000
115.000							.0000						.0000	.0000
180.000	.0000			.0000		.0000	.0000	.1620	.1670	.1690	.1700	.1690	.1810	.1820

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820



TABULATED DATA LISTING FOR OH48 (AEDC VA352)

DATE 23 JAN 75

(CTR836)

AEDC VA352 OH48 O2 ORB. FUSELAGE

MACH (1) = 0.000 ALPHA (3) = 45.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

FHI	.1503	.1445	.1383	.1297	.1309						.1308		.1290		
.000															
10.000				.0000											
20.000				.0000											
25.500				.0000											
40.000				.0000											
45.500				.0000											
131.200									.0000						
145.400								.0000						.0000	
146.200														.0000	
156.000															.0000
159.200															
170.700										.0000					
171.900															
173.400															
180.000															

X/L	.1830	.1850	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

FHI	.1291	.1169	.1169	.1097	.1081	.1022	.1122	.1212	.1051	.1025	.0997	.0959	.0931		
.000		.0000													
11.500								.0000							
12.000															
21.500								.1231							
23.000															
24.000			.1424												
31.500			.1574												
34.000								.0000							
35.000			.1493												
40.000			.1340					.1237							
45.000								.1143							
51.000			.0000												
57.500								.0000							
59.500										.0000					
61.000															
65.000															
70.000															
96.500				.0000											
105.000															
106.000															
135.000															
140.000															
141.400			.0000												
151.000															
160.000															

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
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(CTR836)

AEDC VA352 OH4B 02 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 45.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000	.0920	.0848	.0887	.0912	.0864	.0876	.0867	.0847	.0800	.0834	.0841	.0795	.0828	.0852	
21.500	.0948			.0770					.0860				.0797		
63.000	.0000														
64.000									.0700						
65.000					.0000								.0000		
65.500				.0000					.0000						
105.000	.0000														.0000
111.000															
112.000					.0000										
113.000					.0000										
116.000										.0000					
135.000	.0000				.0000			.0000							
149.000										.0000					
180.000	.0000				.0000			.0000					.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.0930	.1000	.1024	.1141	.1101	.1231	.1324	.0000		.1388	.0000	.1465			
21.500			.1044												
39.000						.0000	.0000						.0000		
52.500															
55.000			.0000												
65.000			.0000												
68.000					.0000										
100.000			.0000												
108.000			.0000												
112.000					.0000										
113.000						.0000			.0000						



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

AEDC VA352 CH4B O2 ORB. BOTTOM SURFACE WING (CTKL36) (15 JAN 75)

REFERENCE DATA

SRF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BRF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

BETA = .000 RM/L = 2.000
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.967 QI = 1.984 MREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HD

21/8 .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0430	.0317	.2939	.1597	.2204	.0489	.1006	.0601	.0296
.002			.2656	.2656		.1838			
.003			.3548	.3548		.1801			
.004			.3920	.3920		.1736			
.005			.3162	.3162		.1605			
.006			.3279	.3279		.1476			
.007			.2661	.2661		.1355			
.025	.0383	.1697	.3731		.3127				
.050		.1596		.1837	.2207	.2242	.1340		
.100	.1096						.1398		
.153									
.177									
.200		.1071		.1348					
.299	.0752								
.300		.1060	.1111	.3321	.1940	.1575			
.302		.0915							
.303				.1167	.1167				
.428	.0668								
.444		.0940							
.487									
.500		.0734		.0977	.3406	.1908			
.559									
.590	.0482								
.600		.0838	.0852			.1527			
.700		.0770	.0789	.0557	.0553		.1287		
.736	.0661								
.800		.0316	.0397						
.850		.0313	.0622						
.900	.0372	.0506	.0661	.0470	.0555		.1362		

.1362

AEDC VA352 CH4B 02 ORB. BOTTOM SURFACE WING (CTKL36)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0448	.0324		.2585	.1959	.1870	.0393		.0993	.0732	.0298
.002					.3217		.1515					
.003					.4562		.1609					
.004					.4699		.1558					
.005					.4183		.1626					
.006					.3850		.1430					
.007					.3179		.1488					
.025	.0380			.1529	.3436		.2688					
.050										.1556		
.100				.1612		.2129	.2052	.2699		.1702		
.153	.1117											
.177					.1082							
.200				.1094		.1510						
.299	.0858											
.300				.1057	.1094		.1845	.3785	.2771			
.302				.0946								
.303							.1129					
.428					.1392							
.444	.0739											
.487				.0931			.1103	.1153	.2495			
.500												
.559				.0841								
.590	.0612											
.600				.0888	.1060			.0884				
.700				.0882	.0773	.0658	.0650		.1634			
.736	.0932											
.800					.0348	.0460						
.850					.0607	.0745						
.900	.0544			.0654	.0661	.0584	.0688		.1244			

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0457	.0315		.1804	.1460	.1703	.0284		.0695	.0464	.0160
.002					.2417		.1076					
.003					.4126		.1145					
.004					.3805		.1232					
.005					.3652		.1182					
.006					.3204		.1152					
.007					.2821		.1095					
.025	.0346			.1271	.2551		.2507					



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH48 (AEDC VA352)

(CTRL36)

AEDC VA352 OH48 O2 CRB. BOTTOM SURFACE WING

MACH (1) = 0.000 ALPHA (3) = 45.000

DEPENDENT VARIABLE HU/HO

SECTION (1) BOTTOM SURF. WING

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050				.1476		.2167	.2014	.1758		.1032		
.100										.1128		
.153	.1259											
.177					.0910							
.200				.1140		.1488						
.299	.0935											
.300					.0996	.1047		.1242	.1472	.1335		
.302				.0906			.1290					
.303						.1134						
.428												
.444	.0789											
.487					.0986		.1230	.1270		.1110		
.500				.1012								
.559												
.590	.0745				.0999	.1143			.0681			
.600					.1049	.0763	.0742			.0721		
.700				.1087								
.736	.1107											
.800					.0526	.0591						
.850					.0933	.0976						
.900	.0677			.1070	.0897	.0898	.0888			.0975		

(CTKN36) (15 JAN 75)

AEDC VA352 CH4B 02 CRB. LEFT MAIN NOZZLE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B-FLAP = .000 ELEVON = .000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HQ

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0275 .0418 .0276 .0085
 25.000 .0349 .0547
 45.000 .0097 .0090 .0071 .0057 .0074
 65.000 .0126 .0131 .0110
 90.000 .0203 .0177 .0165 .0152
 135.000 .0027
 315.000 .0190

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HQ

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0562 .0775 .0561 .0162
 25.000 .0687 .0874
 45.000 .0210 .0186 .0143 .0098 .0126
 65.000 .0324 .0309 .0313
 90.000 .0391 .0367 .0364 .0363
 135.000 .0029
 315.000 .0411

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HQ

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0908 .1268 .1223 .0476
 25.000 .0831 .1072
 45.000 .0431 .0386 .0302 .0191 .0254
 65.000 .0709 .0608 .0672
 90.000 .0741 .0717 .0815 .1033
 135.000 .0080
 315.000 .0674



(CTKP36) (15 JAN 75)

AEDC VA352 OH4B 02 ORB. BASE PLATE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
5.600 .0006 .0008
7.520 .0014 .0007

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
5.600 .0010 .0018
7.520 .0016 .0010

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
5.600 .0055 .0070
7.520 .0031 .0022

AEDC VA352 OH4B 02 ORB. FUSELAGE Y=0.875

(CTKY36) (15 JAN 75)

REFERENCE DATA

SRF = .8238 SQ.FT. XMRP = .0000 IN.
 LRF = 22.5803 IN. YMRP = .0000 IN.
 BRP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1048 .0891 .0734 .0651 .0533 .0575 .0535 .0645

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1224 .0997 .0847 .0755 .0626 .0753 .0667 .1080

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1424 .1231 .1062 .0948 .0770 .0860 .0797 .1044

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000



(CTK937)

AEDC VA352 CH4B 02 CRB. FUSELAGE

$$\text{MACH} (1) = 8.500 \quad \text{ALPHA} (1) = 30.500$$

SECTION (1) CRBITER FUSELAGE

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0000				.0733			
21.500								.0887							
23.000															
24.000				.1014											
31.500				.1149											
34.000								.0000							
35.000				.1111											
40.000				.1089				.0930							
45.000								.0897							
51.000				.0900				.0000				.0000			
57.500								.0000							
59.500								.0000							
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.500				.0000											
105.000								.0000				.0000			
106.000								.0000							
135.000								.0000							
140.000				.0000											
141.400															
151.000			.0000												
180.000				.0000		.0000		.0000				.0000			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.0000	.0590	.0602	.0587	.0600	.0612	.0612	.0620	.0619	.0606	.0669	.0713	.0716	.0826	.0880	
21.500	.0651				.0540				.0638			.0733			
63.000	.0000														
64.000															
65.000									.0000				.0000		
65.500					.0000										
105.000	.0000				.0000				.0000				.0000		
111.000					.0000								.0000		
112.000					.0000										
113.000					.0000										
116.000															
135.000	.0000				.0000				.0000		.0000				
149.000															
180.000	.0000				.0000						.0000				
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0150	1.0140	1.0250	1.0380	1.0500			

iii

(CTK837)

AEDC VA352 OH48 O2 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE H₀/H₀

X/L .1200 .1250 .1300 .1400 .1500 .1550 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1810 .1820

FH1

136.000
139.200
170.700
171.900
173.400
180.000

X/L

.1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

FH1

.0000
11.500
12.000
21.500
23.000
24.000
31.500
34.000
35.000
40.000
45.000
51.000
57.500
59.500
61.000
65.000
70.000
96.500
103.000
106.000
133.000
140.000
141.400
151.000
180.000

.1213

.1331

.1270

.1195

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DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

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(CTR837)

AEDC VA352 OH4B O2 ORB. FUSELAGE

MACH (1) = 9.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000															
112.000					.0000										.0000
113.000					.0000										
116.000											.0000				
135.000	.0000				.0000				.0000						
149.000											.0000				
180.000	.0000				.0000				.0000				.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.1499	.1507	.1502	.1550	.1391	.1493	.1542	.0000		.1511	.0000	.1520			
21.500			.1568												
39.000						.0000	.0000						.0000		
52.500															
55.000			.0000												
65.000			.0000												
68.000						.0000									
100.000			.0000												
108.000			.0000			.0000									
112.000							.0000								
113.000								.0000							

(CTKL37) (15 JAN 75)

CRB. BOTTOM SURFACE WING

AEDC VA352 OH48 O2

PARAMETRIC DATA

BETA = .000 RN/L = 2.250
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 Q1 = 2.341 HREF = .038

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/H0

ZY/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0420	.0315	.2931	.1633	.2206	.0504	.0983	.0612	.0167
.002			.2632	.2632	.1826				
.003			.3542	.3542	.1809				
.004			.3838	.3838	.1735				
.005			.3201	.3201	.1638				
.006			.3291	.3291	.1543				
.007			.2637	.2637	.1461				
.025	.0352		.1651	.3733	.3295				
.050			.1615	.1754	.2645	.2274		.1345	.1413
.100	.1057								
.150		.1083							
.200	.0740		.1075	.1360					
.250			.1091	.1154	.3487	.2252	.1727		
.300			.0891		.1192				
.350				.1187					
.400	.0625			.0960					
.450			.0788		.1057	.3648	.1986		
.500	.0513			.0924	.0881				
.550			.0856	.0972	.0583	.0578	.1600	.1381	
.600	.0808				.0326	.0389			
.650					.0555	.0629			
.700	.0541		.0629	.0841	.0519	.0563			
.750									
.800									
.850									
.900									



MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 Q1 = 2.341 HREF = .038
 AEDC VA352 OH4B O2 ORB. BOTTOM SURFACE WING (CTKL37)

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE MU/HD

27/8	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C	.0419	.0328			.2591	.1980	.1830	.0402		.1075	.0749	.0332
.001						.3230		.1576				
.002						.4589		.1740				
.003						.4744		.1717				
.004						.4191		.1847				
.005						.3845		.1674				
.006						.3132		.1780				
.007							.2602					
.025	.0348		.1533	.3421								
.050			.1596		.2134	.2102	.3189			.1655		
.100										.1834		
.153	.1104				.1062							
.177			.1122		.1551							
.200												
.299	.0849				.1047	.1172		.2021	.4068	.2890		
.300			.0994									
.302												
.303							.1154					
.428					.1391							
.444	.0735											
.487					.0999							
.500							.1123	.1196		.2658		
.559			.1010									
.590	.0717											
.600			.1061	.0898	.0973	.1140			.1004			
.700					.0720	.0662						
.736	.1308									.1836		
.800					.0400	.0486						
.850					.0688	.0777						
.900	.0785		.0885	.0794	.0651	.0693				.1372		

DATE 23 JAN 75

(CTKN37) (15 JAN 75)

ORB. LEFT MAIN NOZZLE

AEDC VA352 CH4B 02

PARAMETRIC DATA

BETA = .000 RN/L = 2.250
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .8230 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 Q1 = 2.341 HREF = .038

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN
.000 .0336 .0531 .0340 .0100
25.000 .0413 .0707
45.000 .0114 .0108 .0095 .0078 .0127
65.000 .0232 .0214 .0219
90.000 .0238 .0220 .0216 .0201
135.000 .0030
315.000 .0244

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 Q1 = 2.341 HREF = .038

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN
.000 .0661 .0910 .0665 .0188
25.000 .0745 .0943
45.000 .0242 .0209 .0162 .0116 .0209
65.000 .0450 .0405 .0425
90.000 .0443 .0436 .0444 .0445
135.000 .0030
315.000 .0509



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH48 (AEDC VA352)

(CTRF37) (15 JAN 75)
AEDC VA352 CH48 O2 ORB. BASE PLATE

REFERENCE DATA

BREF = .0238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.250
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 Q1 = 2.341 HREF = .038

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
5.600 .0005 .0008
7.520 .0011 .0007

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 Q1 = 2.341 HREF = .038

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
5.600 .0018 .0023
7.520 .0017 .0011

(CTK137) (15 JAN 75)

AEDC VA352 CH4B 02 ORB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 QI = 2.341 HREF = .038

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
Y .875 .1014 .0887 .0733 .0651 .0540 .0638 .0733 .0995

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 QI = 2.341 HREF = .038

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
Y .875 .1213 .1008 .0835 .0736 .0664 .0948 .1314 .1568

PARAMETRIC DATA

BETA = .000 RN/L = 2.250
B.FLAP = .000 ELEVON = .000
HAM/HT = .000



STRATIFIED DATA LISTING FOR CH4B (AEDC VA332)

DATE 23 JAN 75

(CTK830) (15 JAN 75)

MEDC VA352 CH48 02 ORB. FUSELAGE

PARAMETRIC DATA

BETA	=	.000	RN/L	=	2,500
B.FLAP	=	.000	ELEVON	=	.000
HAW/HT	=	.000			

REFERENCE DATA

REF	SCALE	REF	SCALE	REF	SCALE
9REF	90.57	2REF	20.57	1REF	10.57
9ARP	90.57	2ARP	20.57	1ARP	10.57
9REF	90.57	2REF	20.57	1REF	10.57
9ARP	90.57	2ARP	20.57	1ARP	10.57

11.511 / 11 = 10.000	TI = 95.550 Q1	= 2.536	HREF = .039
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SECTION / 1100BITTER FUSELAGE	DEPENDENT VARIABLE HU/HQ
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
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30	30
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92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.3037	.4189	.4222	.2895	.2415	.2135	.1795	.1560	.1427				.1333	.1265	.1131
10.000															.0000
14.000								.0000							.0000
20.000								.0000							.0000
22.000								.0000							.0000
24.500								.0000							.0000
35.000								.0000							.0000
39.000								.0000							.0000
42.500								.0000				.0000			.0000
48.000								.0000							.0000
60.000								.0000							.0000
119.000			.0000		.0000			.0000			.0000				.0000
180.000								.0000							.0000

X/L	.1200	.1250	.1300	.1400	.1500	.1550	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1820
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[illegible]

AEDC VA352 CH48 O2 ORB. FUSELAGE (CTK838)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

X/L

.5000

.5250

.5500

.5750

.6000

.6250

.6500

.6750

.7000

.7250

.7500

.7750

.8000

.8250

.8500

PHI

.000

21.500

63.000

64.000

65.000

65.500

105.000

111.000

112.000

113.000

116.000

135.000

149.000

180.000

X/L

.8500

.8750

.9000

.9250

.9500

.9750

1.0000

1.0130

1.0140

1.0250

1.0380

1.0500

PHI



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKB36)

AEDC VA352 CH4B O2 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0150 1.0140 1.0250 1.0380 1.0500

PHI	.000	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229
.000	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000
21.500	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000
39.000	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000
52.500	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000
55.000	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000
65.000	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000
68.000	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000
100.000	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000
108.000	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000
112.000	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000
113.000	.1113	.1147	.1132	.1212	.1073	.1160	.1189	.0000	.1226	.0000	.1229	.0000

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 2.536 HREF = .039

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0900 .1000

PHI	.2689	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000
.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
10.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
14.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
20.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
22.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
24.500	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
35.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
39.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
42.500	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
48.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
60.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
119.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000
180.000	.4028	.4269	.3007	.2542	.2283	.1999	.1706	.1572	.1480	.1399	.1324	.0000	.0000

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

PHI	.1258	.1193	.1119	.1034	.1050	.1022	.1040	.1022	.1040	.1022	.1040	.1022	.1040
.000	.1193	.1119	.1034	.1050	.1022	.1040	.1022	.1040	.1022	.1040	.1022	.1040	.1022
10.000	.1193	.1119	.1034	.1050	.1022	.1040	.1022	.1040	.1022	.1040	.1022	.1040	.1022
20.000	.1193	.1119	.1034	.1050	.1022	.1040	.1022	.1040	.1022	.1040	.1022	.1040	.1022
25.500	.1193	.1119	.1034	.1050	.1022	.1040	.1022	.1040	.1022	.1040	.1022	.1040	.1022
40.000	.1193	.1119	.1034	.1050	.1022	.1040	.1022	.1040	.1022	.1040	.1022	.1040	.1022
45.500	.1193	.1119	.1034	.1050	.1022	.1040	.1022	.1040	.1022	.1040	.1022	.1040	.1022
131.200	.1193	.1119	.1034	.1050	.1022	.1040	.1022	.1040	.1022	.1040	.1022	.1040	.1022
145.400	.1193	.1119	.1034	.1050	.1022	.1040	.1022	.1040	.1022	.1040	.1022	.1040	.1022
146.000	.1193	.1119	.1034	.1050	.1022	.1040	.1022	.1040	.1022	.1040	.1022	.1040	.1022

.0000

.0000

146.000

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTR838)

AEDC VA352 CH4B 02 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/H0

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI															
156.000															
159.200															
170.700															
171.900						.0000	.0000								
173.400		.0000			.0000	.0000	.0000								
180.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
.000	.1043		.0973	.0000	.0865	.0868	.0804	.0882	.0994	.0879	.0853	.0821	.0779	.0727	
11.500			.0000				.0000					.0861			
12.000							.0999								
21.500															
23.000															
24.000			.1185												
31.500			.1339				.0000								
34.000															
35.000			.1269				.1060								
40.000			.1194				.1033								
45.000															
51.000			.0000				.0000					.0000			
57.500															
59.500							.0000					.0000			
61.000							.0000					.0000			
65.000							.0000					.0000			
70.000															
96.500						.0000						.0000			
105.000															
106.000							.0000					.0000			
135.000							.0000					.0000			
140.000						.0000									
141.400	.0000														
151.000		.0000													
180.000						.0000						.0000			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000	.0743	.0743	.0764	.0823	.0813	.0862	.0922	.1004	.1058	.1165	.1304	.1362	.1637	.1779	
21.500		.0768			.0693				.1110				.1550		
63.000															
64.000		.0000													
65.000									.0000						
65.500					.0000								.0000		



DATE 23 JAN 75 TABULATED DATA LISTING FOR OH48 (AEDC VA352)

(CTKB38)

AEDC VA352 OH48 O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000						.0000				
116.000					.0000				.0000						
135.000	.0000				.0000				.0000						
149.000					.0000				.0000				.0000		
180.000	.0000				.0000				.0000						
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.0000	.1796	.1794	.1775	.1787	.1605	.1692	.1691	.0000	.1642	.0000	.1611				
21.500			.1768				.0000					.0000			
39.000						.0000									
52.500			.0000												
55.000			.0000												
65.000			.0000												
68.000			.0000			.0000									
100.000			.0000			.0000									
106.000			.0000			.0000									
112.000			.0000			.0000									
113.000						.0000			.0000						

(CTKL38) (15 JAN 75)

AEDC VA352 CH4B 02 ORB. BOTTOM SURFACE WING

REFERENCE DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 95.950 Q1 = 2.536 HREF = .039

SECTION (1) BOTTOM SURF. WING

DEFENDENT VARIABLE MU/HU
 21/8 .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001 .0010 .0320 .2909 .1642 .2269 .0503 .0996 .0601 .0306
 .002 .002 .002 .002 .002 .002 .002 .002 .002 .002 .002 .002
 .003 .003 .003 .003 .003 .003 .003 .003 .003 .003 .003 .003
 .004 .004 .004 .004 .004 .004 .004 .004 .004 .004 .004 .004
 .005 .005 .005 .005 .005 .005 .005 .005 .005 .005 .005 .005
 .006 .006 .006 .006 .006 .006 .006 .006 .006 .006 .006 .006
 .007 .007 .007 .007 .007 .007 .007 .007 .007 .007 .007 .007
 .025 .0353 .1617 .3766 .2647 .3404 .1510 .1348 .1393
 .050 .050 .050 .050 .050 .050 .050 .050 .050 .050 .050 .050
 .100 .100 .100 .100 .100 .100 .100 .100 .100 .100 .100 .100
 .153 .1039 .1583 .1742 .2858 .2334 .1348 .1348 .1348 .1348 .1348 .1348
 .177 .177 .177 .177 .177 .177 .177 .177 .177 .177 .177 .177
 .200 .200 .200 .200 .200 .200 .200 .200 .200 .200 .200 .200
 .299 .0760 .1064 .1053 .1070 .1183 .3688 .2432 .1858 .1173 .1192 .1192
 .300 .300 .300 .300 .300 .300 .300 .300 .300 .300 .300 .300
 .302 .302 .302 .302 .302 .302 .302 .302 .302 .302 .302 .302
 .303 .303 .303 .303 .303 .303 .303 .303 .303 .303 .303 .303
 .428 .428 .428 .428 .428 .428 .428 .428 .428 .428 .428 .428
 .444 .444 .444 .444 .444 .444 .444 .444 .444 .444 .444 .444
 .487 .487 .487 .487 .487 .487 .487 .487 .487 .487 .487 .487
 .500 .500 .500 .500 .500 .500 .500 .500 .500 .500 .500 .500
 .559 .559 .559 .559 .559 .559 .559 .559 .559 .559 .559 .559
 .590 .0524 .0829 .0971 .0995 .3872 .2054 .2054 .2054 .2054 .2054 .2054
 .600 .600 .600 .600 .600 .600 .600 .600 .600 .600 .600 .600
 .700 .0963 .0884 .0963 .0884 .0963 .0884 .0963 .0884 .0963 .0884 .0884
 .736 .0936 .0936 .0936 .0936 .0936 .0936 .0936 .0936 .0936 .0936 .0936
 .800 .800 .800 .800 .800 .800 .800 .800 .800 .800 .800 .800
 .850 .850 .850 .850 .850 .850 .850 .850 .850 .850 .850 .850
 .900 .0620 .0698 .1000 .0549 .0668 .0668 .0668 .0668 .0668 .0668 .0668
 .1509 .1509 .1509 .1509 .1509 .1509 .1509 .1509 .1509 .1509 .1509 .1509

PARAMETRIC DATA

BETA = .000 RN/L = 2.500
 S.FLAF = .003 ELEVON = .000
 HAM/HT = .003

DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

AEDC VA352 OH4B C2 ORB. BOTTOM SURFACE WING (CTKL38)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 Q1 = 2.536 HREF = .039

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE MU/HQ

21/8 .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0419	.0326	.2607	.1967	.1803	.0417	.1119	.0766	.0517
.002			.3232	.4637	.1854				
.003				.4717	.1836				
.004				.4179	.2024				
.005				.3776	.1871				
.006				.3175	.1975				
.007									
.025	.0348		.1520	.3378	.2690				
.050			.1567	.2137	.1976	.3457	.1713		
.100							.1920		
.153	.1103								
.177				.1086					
.200			.1136	.1567					
.299	.0830								
.300				.1070	.1196	.2208	.4187	.2939	
.302			.1017						
.303					.1189				
.428				.1481					
.444	.0752								
.487				.1089					
.500					.1166	.1248	.2740		
.559			.1152						
.590	.0838								
.600				.1097	.1221		.1091		
.700			.1263	.1068	.0805	.0678		.1989	
.736	.1676								
.800					.0485	.0523			
.850					.0813	.0818			
.900	.1022		.1102	.0932	.0792	.0738			.1540

(CTKN38) (15 JAN 75)

AEDC VA352 OH4B 02 ORB, LEFT MAIN NOZZLE

REFERENCE DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 95.550 Q1 = 2.536 HREF = .039
 ALPHA (2) = 35.000 T1 = 95.550 Q1 = 2.536 HREF = .039

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HQ

X .0880 .1750 .2630 .4380 .7880

FWIN

.000 .0353 .0579 .0360 .0098
 25.000 .0447 .0741
 45.000 .0129 .0117 .0095 .0094 .0143
 65.000 .0256 .0238 .0260
 90.000 .0260 .0239 .0234 .0226
 135.000 .0035
 315.000 .0263

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 95.550 Q1 = 2.536 HREF = .039
 ALPHA (2) = 35.000 T1 = 95.550 Q1 = 2.536 HREF = .039

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HQ

X .0880 .1750 .2630 .4380 .7880

FWIN

.000 .0671 .0922 .0739 .0210
 25.000 .0736 .0908
 45.000 .0255 .0225 .0182 .0120 .0267
 65.000 .0409 .0442 .0475
 90.000 .0453 .0480 .0481
 135.000 .0031
 315.000 .0548

PARAMETRIC DATA

BETA = .000 RN/L = 2.500
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .000



DATE 23 JAN 75 TABULATED DATA LISTING FOR CH4B (AEDC VA352)

AEDC VA352 CH4B O2 ORB. BASE PLATE (CTKF38) (15 JAN 75)

PARAMETRIC DATA

BETA = .000 RV/L = 2.500
B,FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

REF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 Q1 = 2.536 HREF = .039

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
5.600 .0007 .0011
7.520 .0013 .0008

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 Q1 = 2.536 HREF = .039

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
5.600 .0024 .0029
7.520 .0017 .0010

AEDC VA352 OH4B 02 ORB. FUSELAGE Y=0.875

(CTKY38) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 2.536 HREF = .039

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.075 .1015 .0919 .0744 .0666 .0570 .0701 .0859 .1132

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 2.536 HREF = .039

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.075 .1185 .0999 .0861 .0788 .0693 .1110 .1550 .1768

PARAMETRIC DATA

BETA = .000 RN/L = 2.500
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

(CTKB39) (15 JAN 75)

AEDC VA352 CH4B 02 ORB. FUSELAGE

PARAMETRIC DATA

REFERENCE DATA

BREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 0.000 ALPHA (1) = 30.000 TI = 96.100 Q1 = 2.816 HREF = .041

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.2991	.4158	.4322	.2896	.2420	.2130	.1858	.1554	.1419	.1313	.1249	.1171	.0900	.1000
10.000							.0000							
14.000							.0000							
20.000							.0000							
22.000							.0000							
24.500							.0000							
35.000							.0000							
39.000							.0000							
42.500							.0000							
48.000							.0000							
60.000							.0000							
119.000							.0000							
180.000							.0000							

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
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PHI	.1126	.1042	.0974	.0880	.0888	.0888	.0855	.0869							
10.000				.0000	.0000	.0000									
20.000				.0000	.0000	.0000									
25.500				.0000	.0000	.0000									
40.000				.0000	.0000	.0000									
45.500				.0000	.0000	.0000									
131.200				.0000	.0000	.0000									
145.400				.0000	.0000	.0000									
146.200				.0000	.0000	.0000									
156.000				.0000	.0000	.0000									
159.200				.0000	.0000	.0000									
170.700				.0000	.0000	.0000									
171.900				.0000	.0000	.0000									
173.400				.0000	.0000	.0000									
180.000				.0000	.0000	.0000									
X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0851	.0789	.0731	.0728	.0680	.0751	.0807	.0722	.0695	.0675	.0650	.0613			

(CTKB39)

AEDC VA352 CH4B C2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

X/L

.5000

.5250

.5500

.5750

.6000

.6250

.6500

.6750

.7000

.7250

.7500

.7750

.8000

.8250

.8500

.8750

.9000

.9250

.9500

.9750

1.0000

1.0130

1.0250

1.0380

1.0500

PHI

.0000

.0605

.0624

.0609

.0629

.0649

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

.0664

X/L

.8500

.8750

.9000

.9250

.9500

.9750

1.0000

1.0130

1.0250

1.0380

1.0500

PHI:

DATE 23 JAN 75 TABULATED DATA LISTING FOR OH4B (AEDC VA352)

(CTR839)

AEDC VA352 OH4B O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PMI	.0000	.1389	.1374	.1318	.1453	.1284	.1363	.1369	.0000	.1389	.0000	.1340
21.500				.1396				.0000				.0000
39.000					.0000			.0000				
52.500					.0000							
55.000					.0000							
65.000					.0000							
68.000					.0000							
100.000					.0000							
108.000					.0000							
112.000					.0000							
113.000					.0000							

.0000

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.100 QI = 2.816 HREF = .041

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PMI	.2679	.4027	.4202	.2978	.2554	.2272	.2004	.1698	.1573	.1464	.1413	.1312	.0000	.0000	.0000
10.000							.0000								
14.000							.0000								
20.000							.0000								
22.000							.0000								
24.500							.0000								
35.000							.0000								
39.000							.0000								
42.500							.0000								
48.000							.0000					.0000			
60.000							.0000					.0000			
119.000							.0000					.0000			
180.000							.0000					.0000			

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PMI	.1292	.1193	.1113	.1031	.1056	.1043	.1028								
10.000				.0000											
20.000				.0000											
25.500				.0000											
40.000				.0000											
45.500				.0000											
131.200															
145.400															
146.200															

.0000

0000

(CTK839)

AEDC YA352 CH4B C2 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION () ORBITER FUSELAGE DEFECENT VARIABLE HU/HG

x/L	.1209	.1250	.1309	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

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XX/L

x/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

三三三

.000	.1953	.0963	.0000	.0866	.0969	.0795	.0895	.1001	.0866	.0849	.0828	.0789	.0773
11.500													
12.000		.0000											
21.500						.0000						.0865	

24.000

31.500

34.0037

35.000

40.550

45.000

51.955

57.500

59.500

61,000

65.0175

70.0777

96 5377

175 176

1000 0000
1000 0000

135 136 137

139.500
140.500

149. 0270

1941, 1942

WING, K. C. I.

44-38861-1791

3/

7/xx

x/L
.5000 .5250 .5500 .5750 .6000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

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[illegible]

63-0000

64 000 000

63 0000

[illegible]

File 760

DATE 23 JAN 75 TABULATED DATA LISTING FOR OH48 (AEDC VA352)

(CTK839)

AEDC VA352 OH48 O2 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HJ/HQ

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FH1															
105.000	.0000				.0000			.0000					.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000											.0000				
135.000	.0000				.0000			.0000			.0000				
149.000					.0000			.0000							
160.000	.0000				.0000			.0000					.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
FH1															
.000	.2149	.2031	.1979	.1973	.1735	.1777	.1781	.0000		.1707	.0000	.1664			
21.500			.2020												
39.000						.0000	.0000						.0000		
52.500															
55.000			.0000												
65.000			.0000												
68.000						.0000									
100.000			.0000												
108.000			.0000			.0000									
112.000							.0000								
113.000								.0000							

(CTKL39) (15 JAN 75)

AEDC VA352 CH4B O2 CRB. BOTTOM SURFACE WING

REFERENCE DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 0.000 ALPHA (1) = 30.000 TI = 96.100 QI = 2.816 HREF = .041

PARAMETRIC DATA

BETA = .000 RN/L = 2.750
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0425	.0318		.2920	.1677	.2340	.0513		.0984	.0613	.0519
.002					.2657	.3564	.1831					
.003					.3564	.3930	.1859					
.004					.3930	.3256	.1787					
.005					.3256	.3300	.1722					
.006					.3300	.2647	.1699					
.007					.2647		.1617					
.025	.0350			.1605	.3723		.3581					
.050				.1590		.1778	.3222	.2435		.1346		
.100	.1044									.1396		
.153												
.177					.1076							
.200				.1083			.1392					
.299	.0778					.1119	.1172	.3806	.2754	.2089		
.300				.0932								
.302							.1201					
.303												
.428							.1233					
.444	.0639											
.487					.1008							
.500							.1054	.4039		.2091		
.559				.0894								
.590	.0568											
.600					.1132	.0936						
.700				.1027	.1422	.0705	.0642		.1661			
.736	.1080									.1509		
.800						.0427	.0480					
.850					.0690	.0704						
.900	.0746			.0818	.1189	.0621	.0600				.1562	



DATE 23 JAN 73

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

PAGE 499

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.100 Q1 = 2.816 HREF = .041
 AEDC VA352 CH4B O2 ORB. BOTTOM SURFACE WING (CTKL39)

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HD

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001	.0417	.0329		.2597	.1937	.1842	.0426		.1150	.0784	.0323	
.002				.3250	.4615		.1753					
.003				.4615	.4854		.1955					
.004				.4854	.4192		.1966					
.005				.4192	.3820		.2185					
.006				.3820	.3145		.1993					
.007				.3145	.2686		.2135					
.025	.0356		.1525	.3443			.2686					
.050			.1619		.2203	.2079	.3714		.1785			
.100									.1889			
.153	.1097											
.177				.1147								
.200			.1159		.1609							
.299	.0838											
.300				.1196	.1186		.2354	.4434	.3052			
.302			.1066									
.303							.1244					
.428					.1551							
.444	.0711											
.487				.1200			.1226	.1320	.2832			
.500												
.559			.1455									
.590	.1038											
.600			.1240	.1362					.1163			
.700			.1536	.1233	.0930	.0705				.2157		
.736	.2078											
.800					.0605	.0549						
.850					.0946	.0858						
.900	.1056		.1314	.1053	.0927	.0776				.1686		

(CTKN59) (15 JAN 75)

AEDC VA352 CH4B O2 ORB. LEFT MAIN NOZZLE

REFERENCE DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.750
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 96.100 Q1 = 2.816 HREF = .041

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

FHIN

.000 .0387 .0615 .0384 .0101
25.000 .0475 .0789
45.000 .0135 .0128 .0102 .0185
65.000 .0296 .0280 .0332
90.000 .0288 .0258 .0248
135.000 .0034
315.000 .0290

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 96.100 Q1 = 2.816 HREF = .041

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

FHIN

.000 .0679 .0960 .0770 .0233
25.000 .0712 .0898
45.000 .0271 .0249 .0183 .0136 .0298
65.000 .0461 .0443 .0531
90.000 .0471 .0475 .0512 .0541
135.000 .0030
315.000 .0550



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

PAGE 501

AEDC VA352 CH4B 02 ORB. BASE PLATE

(CTKP39) (15 JAN 75)

REFERENCE DATA

XREF = .8238 50.FT. XMRP = .0000 IN.
 LREF = 22.5923 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 2.750
 B.FLAF = .000 ELEVON = .000
 HAM/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 96.100 Q1 = 2.816 HREF = .041

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0009 .0013
 7.520 .0010 .0005

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.100 Q1 = 2.816 HREF = .041

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0028 .0036
 7.520 .0015 .0010

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

DATE 23 JAN 75

(CTKY39) (15 JAN 75)

AEDC VA352 CH48 02 ORB, FUSELAGE Y=0.875

PARAMETRIC DATA

BETA = .000 RN/L = 2.750
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 96.100 Q1 = 2.816 HREF = .041

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1059 .0917 .0700 .0663 .0585 .0777 .1086 .1396

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.100 Q1 = 2.816 HREF = .041

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1166 .0999 .0865 .0802 .0786 .1320 .1913 .2020



AEDC VA352 CH4B 02 CRB. FUSELAGE

(CTK840) (15 JAN 75)

REFERENCE DATA

\$REF =	.8238 SQ.FT.	XARP =	.0000 IN.
LREF =	22.5803 IN.	YARP =	.0000 IN.
BREF =	16.3919 IN.	ZARP =	.0000 IN.
SCALE =	.0175 SCALE		

PARAMETRIC DATA

BETA	=	.000	RN/L	=	3.000
B.FLAP	=	.000	ELEVON	=	.000
HAW/HT	=	.000			

MACH (1) =	0.000	ALPHA (1) =	30.000	TI	=	96.900	QI	=	3.110	HREF	=	.044
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SECTION (1)ORBITER FUSELAGE	DEPENDENT VARIABLE HU/HQ
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
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80	80
81	81
82	82
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84	84
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86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

x/L
.0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0760 .0800 .0900 .1000

PHI

.0000	.3017	.4162	.4202	.2690	.2418	.2101	.1857	.1551	.1413	.1316	.1257	.1151
10.000												.0000
14.000							.0000					
20.000							.0000					.0000
22.000							.0000					
24.500							.0000					.0000
35.000							.0000					
39.000							.0000					.0000
42.500							.0000					
48.000							.0000			.0000		
60.000							.0000					
19.000												
80.000			.0000		.0000		.0000					.0000

x/L
.1200 .1250 .1300 .1400 .1500 .1600 .1670 .1780 .1800 .1820

FBI

.000	.1109	.1040	.0977	.0899	.0888	.0863	.0876
10.000				.0000			
20.000				.0000			
25.500				.0000			
40.000				.0000			
45.500				.0000			

x/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
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FBI

[illegible]

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTK840)

AEDC VA352 CH4B 02 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FH1															
12.000								.0000				.0759			
21.500								.0976							
23.000															
24.000				.1031											
31.500				.1156											
34.000															
35.000				.1126											
40.000				.1104											
45.000															
51.000				.0000								.0000			
57.500															
59.500															
61.000															
65.000															
70.000															
96.500				.0000								.0000			
105.000															
106.000												.0000			
135.000												.0000			
140.000				.0000											
141.400	.0000														
151.000			.0000									.0000			
180.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FH1															
.0000	.0616	.0682	.0613	.0642	.0683	.0700	.0747	.0788	.0819	.0962	.1080	.1097	.1408	.1552	
21.500	.0681				.0592				.0846				.1212		
63.000	.0000														
64.000									.0000				.0000		
65.000					.0000										
105.000					.0000				.0000				.0000		
111.000	.0000														.0000
112.000					.0000										
113.000					.0000										
116.000											.0000				
135.000	.0000				.0000				.0000						
149.000											.0000				
180.000					.0000				.0000				.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

FH1

DATE 23 JAN 75

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

PAGE 505

AEDC VA352 CH48 O2 CRB. FUSELAGE (CTK840)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

FHI

.000	.1640	.1648	.1629	.1611	.1430	.1480	.1495	.0000	.1462	.0000	.1431
21.500			.1570								
39.000						.0000	.0000				.0000
52.500						.0000					
55.000			.0000								
65.000			.0000			.0000					
68.000						.0000					
100.000			.0000			.0000					
108.000			.0000			.0000					
112.000						.0000					
113.000						.0000					

.0000

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.900 Q1 = 3.118 HREF = .044

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .0000 .0050 .0100 .0200 .0250 .0300 .0400 .0500 .0600 .0700 .0750 .0800 .0900 .1000

FHI

.000	.2689	.4006	.4171	.2996	.2565	.2259	.2018	.1720	.1571		.1460	.1392	.1310
10.000													.0000
14.000													
20.000													.0000
22.000													.0000
24.500													.0000
35.000													.0000
39.000													.0000
42.500													.0000
48.000													.0000
60.000													.0000
119.000													.0000
180.000			.0000		.0000		.0000		.0000		.0000		.0000

.0000

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1800 .1820

FHI

.000	.1276	.1178	.1109	.1043	.1038								
10.000				.0000	.0000								
20.000				.0000	.0000								
25.500				.0000	.0000								
40.000				.0000	.0000								
45.500				.0000	.0000								
131.200				.0000	.0000								
145.400				.0000	.0000								
146.200				.0000	.0000								.0000

.0000

.0000

(CTRB40)

AEDC VA352 QH4B G2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HQ													
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1810 .1820
FHI													
156.000													.0000 .0000
159.200												.0000	
170.700						.0000			.0000				
171.900													
173.400		.0000			.0000								
180.000													
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250 .4500 .4750
FHI													
.0000	.1050			.0964	.0000	.0876	.0863	.0797	.0906	.1002	.0878	.0842	.0837 .0771
11.500				.0000									
12.000								.0000				.0862	
21.500								.0971					
23.000													
24.000				.1146				.0000					
31.500				.1326									
34.000													
35.000				.1281									
40.000				.1194									
45.000													
51.000				.0000				.0000				.0000	
57.500													
59.500													
61.000								.0000					
65.000								.0000					
70.000								.0000					
96.500				.0000								.0000	
105.000													
106.000								.0000					
135.000								.0000				.0000	
140.000				.0000									
141.400	.0000												
151.000		.0000											
180.000				.0000		.0000		.0000			.0000		
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8250 .8290
FHI													
.0000	.0776	.0894	.0843	.0674	.0990	.1124	.1280	.1457	.1570	.1784	.1941	.2012	.2372 .2502
21.500	.0849				.0900				.1631				.2272
63.000													
64.000													
65.000													
65.500					.0000								.0000



DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

PAGE 507

AEDC VA352 OH4B O2 CRB. FUSELAGE

(CTK840)

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HG

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
FHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000						.0000									.0000
112.000						.0000									
113.000						.0000									
116.000									.0000						
135.000	.0000				.0000				.0000						.0000
149.000									.0000						.0000
180.000	.0000				.0000				.0000						.0000
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
FHI															
.0000	.2430	.2269	.2155	.2110	.1840	.1898	.1840	.0000		.1755	.0000	.1695			
21.500			.2168												
39.000						.0000									
52.500						.0000									
55.000			.0000												
65.000			.0000												
68.000			.0000			.0000									
100.000			.0000												
108.000			.0000			.0000									
112.000							.0000								
113.000								.0000							

(CTKLD) (15 JAN 75)

AEDC VA352 CH48 O2 ORB. BOTTOM SURFACE WING

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 96.900 QI = 3.118 HREF = .044

DEPENDENT VARIABLE MU/HQ

SECTION (1) BOTTOM SURF. WING

27/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0414	.0324	.2906	.1631	.2490	.0517	.0994	.0619	.0268
.002			.2641	.3567		.1843			
.003				.3855		.1849			
.004				.3180		.1885			
.005				.3280		.1891			
.006				.2634		.1816			
.007						.1742			
.025	.0346		.1600	.3746		.3814			
.050			.1591				.1354		
.100	.1024			.1819	.3550	.2589	.1420		
.153									
.177				.1070					
.200			.1078						
.299	.0757								
.300				.1112	.1220	.3953	.3038	.2336	
.302			.0924						
.303				.1241		.1254			
.428									
.444	.0668								
.487				.1112		.1164	.4244	.2131	
.500			.0993						
.559									
.590	.0657								
.600				.1459	.1098		.1763		
.700			.1192	.1869	.0945	.0945		.1611	
.736	.1462								
.800				.0685	.0939				
.850				.0950	.1355				
.900	.0891		.1017	.1417	.0848	.1199		.1631	



TABULATED DATA LISTING FOR OH4B (AEDC VA352)

DATE 23 JAN 75

AEDC VA352 OH4B O2 CRB. BOTTOM SURFACE WING (CTKL40)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.900 Q1 = 3.110 HREF = .044

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE MU/HD

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0417	.0333	.2599	.2017	.1829	.0438	.1196	.0800	.0334
.002			.3245	.4617		.1843			
.003			.4617	.4739		.2099			
.004			.4739	.4181		.2163			
.005			.4181	.3886		.2398			
.006			.3886	.3270		.2244			
.007			.3270		.2705	.2369			
.025	.0347	.1538	.3465						
.050		.1682		.2272	.2096	.4005	.1823		
.100	.1098						.1969		
.153			.1212						
.177		.1257		.1699					
.200	.0831								
.299		.1352	.1336			.2642	.4503	.3161	
.300		.1232			.1337				
.302			.1683						
.303									
.428	.0836								
.444		.1527			.1294	.1472		.2928	
.487		.1963							
.500									
.559									
.590	.1307		.1647	.1721			.1313		
.600		.2029	.1677	.1362	.0794			.2248	
.700									
.736	.2676								
.800			.0972	.0875					
.850			.1370	.1299					
.900	.1183	.1639	.1387	.1313	.1009				.1873

(CTKN40) (15 JAN 75)

ORB. LEFT MAIN NOZZLE

AEDC VA352 CH4B 02

PARAMETRIC DATA

BETA = .000 RW/L = 3.000
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0500 IN.
LREF = 22.5803 IN. YMRP = .0500 IN.
BREF = 16.3919 IN. ZMRP = .0500 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 96.900 Q1 = 3.118 HREF = .044

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HQ

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0393 .0629 .0392 .0105
25.000 .0497 .0845
45.000 .0142 .0131 .0115 .0120 .0214
65.000 .0305 .0308 .0410
90.000 .0311 .0290 .0291 .0264
135.000 .0338
315.000 .0311

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 96.900 Q1 = 3.118 HREF = .044

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HQ

X .0880 .1750 .2630 .4380 .7880

PHIN

.000 .0706 .0946 .0797 .0242
25.000 .0735 .0919
45.000 .0281 .0256 .0195 .0148 .0322
65.000 .0505 .0452 .0575
90.000 .0476 .0492 .0538 .0599
135.000 .0529
315.000 .0546



DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

PAGE 511

AEDC VA352 OH4B O2 CR8. BASE PLATE

(CTRP40) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 96.900 Q1 =

BETA = .000 RN/L = 3.000

B.FLAP = .000 ELEVON = .000

HAW/HT = .000

HREF = .044

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/H0

Y .0000 1.2250 1.9250

Z

5.600 .0012 .0016

7.520 .0012 .0007

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 96.900 Q1 =

BETA = .000 RN/L = 3.118

B.FLAP = .000 ELEVON = .044

HAW/HT = .000

HREF = .044

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/H0

Y .0000 1.2250 1.9250

Z

5.600 .0029 .0040

7.520 .0014 .0011

PARAMETRIC DATA

(CTKY40) (15 JAN 75)

AEDC VA352 CH48 O2 ORB. FUSELAGE Y=0.875

PARAMETRIC DATA

BETA = .000 RN/L = 3.000
B.FLAF = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 96.900 Q1 = 3.118 HREF = .044

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1031 .0906 .0759 .0681 .0592 .0646 .1212 .1570

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 96.900 Q1 = 3.118 HREF = .044

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1146 .0971 .0862 .0849 .0900 .1631 .2272 .2168



AEDC VA352 CH48 02 CRB. FUSELAGE

(CTKB41) (15 JAN 75)

REFERENCE DATA

YREF =	.8338 SQ.FT.	XARP =	.0000 IN.
LREF =	22.5003 IN.	YARP =	.0000 IN.
BREF =	16.3919 IN.	ZARP =	.0000 IN.
SCALE =	.0175 SCALE		

WACH (1) =	8.000	ALPHA (1) =	30.000	TI =	97.600	QI =	3.536	HREF =	.046
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PARAMETRIC DATA

BETA	=	.000	RN/L	=	3.350
B.FLAP	=	.000	ELEVON	=	.000
HAW/HT	=	.000			

SECTION (1) ORBITER FUSELAGE

[illegible]

(CTK841)

AEDC VA352 CH4B O2 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) CRBITER FUSELAGE DEFENDENT VARIABLE HU/HQ

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PM1															
12.000								.0000							
21.500								.0899							
23.000															
24.000				.1008											
31.500				.1153											
34.000															
35.000				.1127				.0939							
40.000				.1116				.0868							
45.000															
51.000				.0800				.0000							
57.500								.0000							
59.500								.0000							
61.000								.0000							
65.000								.0000							
70.000				.0000				.0000							
96.500								.0000							
105.000								.0000							
106.000								.0000							
135.000				.0000				.0000							
140.000								.0000							
141.400	.0000														
151.000			.0000					.0000							
180.000								.0000							
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PM1															
.0000	.0625	.0692	.0657	.0663	.0711	.0769	.0843	.0905	.0968	.0880	.1305	.1262	.1664	.1648	
21.500	.0693				.0620								.1529		
65.000	.0000								.0000				.0000		
64.000									.0000				.0000		
65.000					.0000				.0000				.0000		
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000				.0000				.0000		
112.000					.0000				.0000				.0000		
113.000					.0000				.0000				.0000		
116.000					.0000				.0000		.0000		.0000		
135.000	.0000				.0000				.0000		.0000		.0000		
149.000					.0000				.0000		.0000		.0000		
180.000	.0000				.0000				.0000		.0000		.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PM1															

PM:



AE DC VA352 CH4B Q2 CRB. FUSELAGE (CTKB41)

$$\text{MACH} (1) = 0.009 \quad \text{ALPHA} (1) = 30.000$$

SECTION () ORBITER FUSELAGE	DEPENDENT VARIABLE HU/HO
1	0.0000
2	0.0000
3	0.0000
4	0.0000
5	0.0000
6	0.0000
7	0.0000
8	0.0000
9	0.0000
10	0.0000
11	0.0000
12	0.0000
13	0.0000
14	0.0000
15	0.0000
16	0.0000
17	0.0000
18	0.0000
19	0.0000
20	0.0000
21	0.0000
22	0.0000
23	0.0000
24	0.0000
25	0.0000
26	0.0000
27	0.0000
28	0.0000
29	0.0000
30	0.0000
31	0.0000
32	0.0000
33	0.0000
34	0.0000
35	0.0000
36	0.0000
37	0.0000
38	0.0000
39	0.0000
40	0.0000
41	0.0000
42	0.0000
43	0.0000
44	0.0000
45	0.0000
46	0.0000
47	0.0000
48	0.0000
49	0.0000
50	0.0000
51	0.0000
52	0.0000
53	0.0000
54	0.0000
55	0.0000
56	0.0000
57	0.0000
58	0.0000
59	0.0000
60	0.0000
61	0.0000
62	0.0000
63	0.0000
64	0.0000
65	0.0000
66	0.0000
67	0.0000
68	0.0000
69	0.0000
70	0.0000
71	0.0000
72	0.0000
73	0.0000
74	0.0000
75	0.0000
76	0.0000
77	0.0000
78	0.0000
79	0.0000
80	0.0000
81	0.0000
82	0.0000
83	0.0000
84	0.0000
85	0.0000
86	0.0000
87	0.0000
88	0.0000
89	0.0000
90	0.0000
91	0.0000
92	0.0000
93	0.0000
94	0.0000
95	0.0000
96	0.0000
97	0.0000
98	0.0000
99	0.0000
100	0.0000

PHI	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
.000	.1916	.1879	.1819	.1788	.1554	.1602	.1580	.0000		.1526	.0000	.1470
21.500			.1806									
39.000						.0000	.0000					.0000
52.500			.0000									
65.000			.0000									
68.000						.0000						
100.000			.0000									
108.000			.0000			.0000	.0000					
112.000							.0000					
113.000								.0000				

MACH (1) =	8.000	ALPHA (2) =	35.000	TI	=	97.600	QI	=	3.536	WREF	=	.046
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SECTION (1) ORBITER FUSELAGE

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
10.000	.2680	.4012	.4200	.2985		.2547	.2268	.1993	.1715	.1568			.1460	.1427	.1311
14.000							.0000								.0000
20.000							.0000								.0000
22.000							.0000								.0000
24.500							.0000								.0000
35.000							.0000								.0000
39.000							.0000								.0000
42.500							.0000								.0000
48.000							.0000					.0000			.0000
60.000							.0000								.0000
119.000							.0000								.0000
180.000			.0000		.0000		.0000				.0000				.0000
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820

.0000

DATE 23 JAN 75

(CTR841)

AEDC VA352 OH48 O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
FHI															
156.000														.0000	.0000
159.200												.0000			
170.700										.0000					
171.900					.0000										
173.400		.0000			.0000						.0000				
180.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
FHI															
.000	.1047		.0968	.0000	.0875	.0887	.0802	.0917	.0991	.0880	.0891	.0849	.0819	.0795	
11.500			.0000				.0000					.0866			
12.000							.1007								
21.500															
23.000							.0000								
24.000			.1186												
31.500			.1331				.0000								
34.000							.1085								
35.000			.1274				.1021								
40.000			.1212												
45.000			.0000				.0000								
51.000							.0000					.0000			
57.500							.0000								
59.500							.0000								
61.000							.0000								
65.000							.0000								
70.000							.0000								
96.500				.0000								.0000			
105.000							.0000								
106.000							.0000								
135.000				.0000			.0000								
140.000							.0000								
141.400	.0000														
151.000		.0000					.0000								
180.000			.0000			.0000	.0000					.0000			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
FHI															
.000	.0823	.0819	.0929	.1022	.1156	.1353	.1520	.1720	.1920	.2141	.2294	.2326	.2652	.2773	
21.500	.0878				.1043				.1968				.2596		
65.000	.0000														
64.000									.0000						
65.000					.0000										
65.500													.0000		



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

PAGE 517

AEDC VA352 CH48 C2 ORB. FUSELAGE

(CTKB41)

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		
111.000															.0000
112.000					.0000										
113.000					.0000										
116.000											.0000				
135.000	.0000				.0000			.0000							
149.000									.0000		.0000				
180.000	.0000				.0000			.0000					.0000		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI												
.000	.2634	.2400	.2274	.2217	.1912	.1934	.1891	.0000	.1841	.0000	.1713	
21.500			.2262									
39.000						.0000						.0000
52.500			.0000									
55.000			.0000									
65.000						.0000						
68.000												
100.000			.0000			.0000						
108.000			.0000									
112.000						.0000						
113.000								.0000				

DATE 23 JAN 75

(CTKL41) (15 JAN 75)

AEDC VA352 CH48 O2 ORB. BOTTOM SURFACE WING

PARAMETRIC DATA

BETA = .000 RV/L = 3.350
B.FLAF = .000 ELEVON = .000
HAM/HT = .000

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.600 QI = 3.536 HREF = .046

DEPENDENT VARIABLE HU/HQ

SECTION (1) BOTTOM SURF. WING

2Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0413	.0326	.2905	.1662	.2635	.0516	.1003	.0652	.0284
.002				.2631	.1876				
.003				.3489	.1876				
.004				.3684	.1933				
.005				.3155	.1870				
.006				.3311	.1923				
.007				.2625	.1885				
.025		.1602	.3715	.4099			.1367		
.050		.1554		.1802	.4014	.2766	.1413		
.100									
.153		.1034							
.177			.1081						
.200		.1109		.1433					
.299	.0752								
.300			.1144	.1276	.4087	.3308	.2580		
.302	.0972								
.303					.1324				
.428									
.444	.0682								
.487			.1248						
.500					.1757	.4425	.2208		
.559	.1278								
.590									
.600	.0736								
.700		.1544	.2393	.1481	.1652		.1604	.1711	
.736	.1854								
.800				.1069	.1542				
.850				.1422	.1813				
.900	.1028	.1306	.1644	.1248	.1488				.1675



AEDC VA352 CH4B O2 ORB. BOTTOM SURFACE WING (CTKL41)

MACH (1) = 0.000 ALPHA (2) = 35.000 TI = 97.600 Q1 = 3.536 HREF = .046

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HQ

Z/Y/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0418	.0335	.2570	.1988	.1881	.0454	.1217	.0816	.0365
.002				.3128		.1938			
.003				.4703		.2229			
.004				.4788		.2351			
.005				.4274		.2549			
.006				.3949		.2453			
.007				.3361		.2561			
.025	.0358		.1592	.3490		.2737			
.050			.1575		.2353	.2197	.4227	.1831	
.100								.1992	
.153	.1068								
.177				.1284					
.200			.1333		.1773				
.299	.0818								
.300				.1507	.1409	.2913	.4675	.3237	
.302			.1393						
.303					.1424				
.428				.1852					
.444	.0936								
.487				.1811		.1427	.1618	.2966	
.500			.2327						
.559									
.590	.1636			.2016	.2175		.1438		
.600			.2368	.2054	.1833	.0897		.2369	
.700									
.736	.3087								
.800				.1266	.1010				
.850				.1779	.1292				
.900	.1229		.1908	.1584	.1681	.1076		.2017	

DATE 23 JAN 75

(CTKN41) (15 JAN 75)

AEDC VA352 CH48 O2 CRB. LEFT MAIN NOZZLE

PARAMETRIC DATA

BETA = .000 RN/L = 3.350
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

REFERENCE DATA

SRF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BRF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.600 QI = 3.536 HREF = .046

SECTION (1) NOZZLE DEFENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN
.000 .0405 .0644 .0408 .0109
25.000 .0512 .0852
45.000 .0148 .0140 .0136 .0251
65.000 .0325 .0328 .0488
90.000 .0343 .0319 .0311 .0271
135.000 .0039
315.000 .0330

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.600 QI = 3.536 HREF = .046

SECTION (1) NOZZLE DEFENDENT VARIABLE HU/HO

X .0880 .1750 .2630 .4380 .7880

PHIN
.000 .0719 .0981 .0824 .0245
25.000 .0761 .0937
45.000 .0293 .0263 .0199 .0150 .0368
65.000 .0465 .0464 .0616
90.000 .0500 .0505 .0544 .0632
135.000 .0029
315.000 .0538



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

PAGE 521

AEDC VA352 CH4B 02 ORB. BASE FLATE

(CTKF41) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.350
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .000

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 97.600 Q1 = 3.536 HREF = .046

SECTION (1) BASE FLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0013 .0015
 7.520 .0008 .0006

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 97.600 Q1 = 3.536 HREF = .046

SECTION (1) BASE FLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0029 .0061
 7.520 .0013 .0013

DATE 23 JAN 75

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(CTKY41) (15 JAN 75)

AEDC VA352 CH4B 02 ORB. FUSELAGE Y=5.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 97.600 Q1 = 3.536 HREF = .046

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1008 .0899 .0747 .0693 .0620 .1010 .1529 .1806

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 97.600 Q1 = 3.536 HREF = .046

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1186 .1007 .0866 .0878 .1043 .1968 .2596 .2262

PARAMETRIC DATA

BETA = .000 RN/L = 3.350
B.FLAP = .000 ELEVON = .000
HAW/HT = .000



DATE 23 JAN 75

(CTKB42)

AEDC VA352 CH48 02 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEFENDENT VARIABLE HU/HO

X/L .1830 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

PHI

12.000

21.500

23.000

24.000

31.500

34.000

35.000

40.000

45.000

51.000

57.500

59.500

61.000

65.000

70.000

96.500

105.000

106.000

135.000

140.000

141.400

151.000

180.000

X/L

PHI

.000

21.500

63.000

64.000

65.000

65.500

105.000

111.000

112.000

113.000

116.000

135.000

149.000

180.000

X/L

PHI

.000

21.500

63.000

64.000

65.000

65.500

105.000

111.000

112.000

113.000

116.000

135.000

149.000

180.000

X/L

PHI

.000

21.500

63.000

64.000

65.000

65.500

105.000

111.000

112.000

113.000

116.000

135.000

149.000

180.000

AEDC VA352 CH4B C2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) CRBITER FUSELAGE

[illegible]

MACH (1) =	8.0000	ALPHA (2) =	35.0000	TI =	97.050	QI =	3.937	HREF =	.049
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SECTION (1) ORBITER FUSELAGE

[illegible]

DATE 23 JAN 75

TABULATED DATA LISTING FOR CASE

(CTK842)

AEDC VA352 CH4B O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI														.0000	.0000
156.000															
159.200															
170.700										.0000					
171.900						.0000					.0000				
173.400		.0000			.0000								.0000		
180.000															

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
.000															
11.500		.1057		.0965	.0000	.0895	.0894	.0816	.0913	.0954	.0886	.0861	.0866	.0859	.0854
12.000				.0000				.0000							
21.500												.0873			
23.000								.1008							
24.000				.1216											
31.500				.1353				.0000							
34.000															
35.000				.1287				.1067							
40.000				.1195				.1021							
45.000															
51.000				.0000				.0000							
57.500												.0000			
59.500															
61.000								.0000							
65.000								.0000							
70.000				.0000								.0000			
96.500															
105.000								.0000							
106.000								.0000							
135.000								.0000							
140.000				.0000											
141.400		.0000													
151.000			.0000		.0000			.0000							
180.000				.0000		.0000									

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000															
21.500		.0879	.1419	.1043	.1187	.1685	.1712	.1940	.2184	.2331	.2512	.2640	.2821	.2875	.2915
63.000		.0934			.1262										
64.000		.0000													
65.000															
65.500					.0000										.0000



DATE 23 JAN 75

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

PAGE 527

(CTRB42)

AEDC VA352 OH4B 02 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE MU/HQ

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		
111.000															.0000
112.000					.0000										
113.000					.0000										
116.000											.0000				
135.000	.0000				.0000			.0000							
149.000									.0000		.0000				
180.000	.0000				.0000			.0000					.0000		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI												
.000	.2732	.2488	.2343	.2271	.2002	.2012	.1945	.0000		.1859	.0000	.1792
21.500			.2325									
39.000							.0000					.0000
52.500			.0000			.0000						
55.000			.0000									
65.000			.0000									
68.000												
100.000			.0000			.0000						
108.000			.0000									
112.000					.0000		.0000					
113.000								.0000				

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

DATE 23 JAN 75

AEDC VA352 CH4B 02 CARB. BOTTOM SURFACE WING (CTRL42) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.050 31 = 3.937 HREF = .049

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .000

DEPENDENT VARIABLE HU/HO

SECTION (1) BOTTOM SURF. WING

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9500	.9660	.9930
X/C											
.001		.0414	.0331		.2834	.1689	.2869	.0522	.1506	.0708	.0287
.002						.2651		.1929			
.003						.3494		.1980			
.004						.4017		.2574			
.005						.3227		.2022			
.006						.3385		.2131			
.007						.2713		.2106			
.025	.0385			.1630	.3803		.4501		.1404		
.050			.1659			.1931	.4426	.3037	.1505		
.100											
.153	.1040										
.177					.1197						
.200			.1197								
.299	.0752					.1369		.4274	.3586	.2816	
.300				.1120			.1461				
.302											
.303											
.428						.1667					
.444	.0708				.1667						
.487						.3219	.4649		.2299		
.500											
.559		.1738									
.590	.0992					.2632			.1694		
.600		.2586									
.700		.2047	.2819	.2230	.2093					.1845	
.736	.2435										
.800						.1473	.1787				
.850						.1942	.2188				
.900	.1108			.1595	.1815	.1705	.1898			.1778	

DATE 23 JAN 78

TABULATED DATA LISTING FOR OH4B (AEDC VA352)

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AEDC VA352 OH4B O2 ORB. BOTTOM SURFACE WING (CTRL42)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.050 Q1 = 3.937 HREF = .049

SECTION (1) BOTTOM SURF. WING DEFENDENT VARIABLE HU/HD

21/8	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0420	.0336		.2623	.2036	.1936	.0465		.1273	.0818	.0354
.002					.3164			.2023				
.003						.4709		.2330				
.004						.4960		.2516				
.005						.4507		.2731				
.006						.4236		.2663				
.007						.3568		.2764				
.025	.0358			.1630	.3658		.2879					
.050				.1844		.2489	.2327	.4526		.1913		
.100										.2103		
.153	.1108				.1464							
.177				.1600		.1935						
.200	.0836											
.299					.1790	.1597		.3157	.4894	.3384		
.300				.1786			.1631					
.302						.2144						
.303												
.428												
.444	.1128											
.487					.2369							
.500				.3054			.1653	.1921		.3084		
.559												
.590	.2096											
.600					.2636	.2802			.1555			
.700				.2757	.2595	.2435	.1097					
.736	.3471									.2480		
.800												
.850					.1625	.1454						
					.2198	.2268						
.900	.1292			.2011	.1855	.2028	.2272					.2211

(CTKN42) (15 JAN 75)

AEDC VA352 CM4B 02 ORB. LEFT MAIN NOZZLE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .003
HAW/HT = .000

REFERENCE DATA

SRF = .8238 SQ.FT. XHRP = .0000 IN.
LREF = 22.5803 IN. YHRP = .0000 IN.
SRF = 16.3919 IN. ZHRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 97.050 Q1 = 3.937 HREF = .049

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/H0

X .0880 .1750 .2630 .4380 .7880

PHIN
.000 .0431 .0677 .0431 .0113
25.000 .0546 .0800
45.000 .0153 .0143 .0127 .0145 .5275
65.000 .0352 .0352 .0541
90.000 .0377 .0349 .0342 .0288
135.000 .0042
315.000 .0363

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 97.050 Q1 = 3.937 HREF = .049

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/H0

X .0880 .1750 .2630 .4380 .7880

PHIN
.000 .0758 .0990 .0861 .0266
25.000 .0805 .0971
45.000 .0309 .0287 .0225 .0165 .0410
65.000 .0471 .0370 .0665
90.000 .0499 .0519 .0567 .0642
135.000 .0031
315.000 .0535



DATE 23 JAN 75

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

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AEDC VA352 CH48 02 CRB. BASE PLATE

(CTKP42) (15 JAN 75)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.050 Q1 = 3.937 HREF = .049

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0016 .0015
7.520 .0013 .0005

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.050 Q1 = 3.937 HREF = .049

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0033 .0050
7.520 .0017 .0015

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
B.FLAP = .000 ELEVON = .000
HAM/HT = .000

(CTKY42) (15 JAN 75)

AEDC VA352 OH4B 02 ORB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.050 Q1 = 3.937 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000	.9000
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Y .875 .1019 .0917 .0796 .0694 .1215 .1987 .2050

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.050 Q1 = 3.937 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000	.9000
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Y .875 .1216 .1008 .0873 .0934 .1262 .2414 .2806 .2325

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAM/HT = .000